Hunterian Society

TRANSACTIONS.

SESSION 1891-92.

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ABSTRACT OF THE

TRANSACTIONS

OF THE

HUNTERIAN SOCIETY,

SESSION 1891-92,

WITH THE

REPORT OF THE COUNCIL,

AND A

LIST OF OFFICERS AND FELLOWS,

ALSO

THE ANNUAL ORATION FOR 1892.

SOCIETY INSTITUTED FEBRUARY 1819.

LONDON:
PRINTED BY ASH & CO., 42, SOUTHWARK STREET, S.E.

1892.

CANCELLED

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LIST OF PRESIDENTS

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1822 Benjamin Robinson, M.D.
1824 William Babington, M.D., F.R.S.
1826 Benjamin Travers, F.R.S.
1828 A. Billing, M.D., F.R.S.
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1832 Charles Aston Key.
1834 B. G. Babington, M.D., F.R.S.
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1878 Thomas B. Crosby, M.D.
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1883 Walter Rivington, M.S.
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1890 Stephen Mackenzie, M.D.
1892 F. Gordon Brown.

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FOR THE SESSION 1892-93.

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SAMUEL GROSS, M.D., LL.D., Professor of Surgery in the Jefferson Medical College, Philadelphia.

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RUDOLPH VIRCHOW, M.D., LL.D., Professor of Pathological Anatomy in the University of Berlin.

ORDINARY FELLOWS.

* Life Fellow by Purchase, in accordance with Law LXII.
** Life Fellow by the payment of Twenty-five Annual Subscriptions, in accordance with Law LXIII.
(*C*) Member of Council.

When Admitted.

1856 **ALLINGHAM, WILLIAM, late Senior Surgeon to St. Mark's Hospital, *25, Grosvenor Street, W.*

1884 APPLEFORD, STEPHEN H., M.D. (*C*), *17, Finsbury Circus, E.C.*

1864 **BADER, CHARLES, Consulting Ophthalmic Surgeon to Guy's Hospital, *10, Finsbury Circus, E.C.*

1889 BARLOW, THOS. C. ... ... *88, Dalston Lane, N.E.*

1854 **BARNES, ROBERT, M.D., late President, Consulting Obstetric Physician to St. George's Hospital *7, Queen Anne Street, W., and Lingwood, Liss, Hants.*

1889 BARRETT, ASHLEY WM., M.B., Surgeon Dentist to, and Lecturer on Dental Surgery at, the London Hospital, *42, Finsbury Square, E.C.*

When Admitted.

1892 Bass, Frederick ... ... *17, Charterhouse Square, E.C.*

1875 Beach, Fletcher, M.B., Medical Superintendent, Darenth Asylum, Dartford, Kent.

1888 Bedford, R. Thomas ... ... *Denton Rectory, Newhaven, Sussex.*

1860 **Berry, Henry T. ... . *66, Pembridge Villas, Bayswater, W.*

1886 Beswick, Robert ... ... *71, Bishopsgate Street Without, E.C.*

1889 Bidwell, Leonard A., Assistant Surgeon to the West London Hospital... ... ... *21, Bentinck Street, Cavendish Square, W.*

1848 **Blackmore, James Thomas ... *Shoreham Lodge, Granville Road, Sevenoaks, Kent.*

1875 Blewitt, Byron ... ... *120, Leadenhall Street, E.C.*

1882 Bothamley, Wm. P. ... ... *1 & 2, Cadogan Terrace, Victoria Park, N.E.*

1876 Bowkett, Thos. E., Vice-President, Surgeon to the Poplar Hospital, *145, East India Road, E.*

1888 Bredin, J. Noble ... ... *1, Norton Folgate, Spital Square, N.E.*

1865 **Brown, Frederick Gordon, President, *17, Finsbury Circus, E.C.*

1883 Brown, T. Lloyd ... ... *24, Wilton Square, Islington, N.*

1865 *Brownfield, Matthew, Surgeon to the Poplar Hospital, *171, East India Road, Poplar, E.*

1862 **Bryant, Thomas, M.Ch., late President, Consulting Surgeon to Guy's Hospital ... ... *65, Grosvenor Street, W.*

1871 Buncombe, Chas. H., Medical Superintendent, City of London Infirmary ... ... *Bow Road, E.*

1889 Burger, Alexander, M.D., M.Ch., Surgeon to the German Hospital, *49, Finsbury Square, E.C.*

1892 Burgess, Edward A. ... ... *19, Ash Grove, Cricklewood, N.W.*

1889 Burghard, Frēd. F., M.S., M.D., Assistant Surgeon to King's College Hospital ... ... *46, Weymouth Street, W.*

1889 Cardew, H. W. Denton (*C*) ... *53, Harley Street, W.*

1888 Carpenter, Geo. A., M.D., Physician to Out-Patients at the Evelina Hospital ... ... *1, St. Ermin's Mansions, Westminster, S.W.*

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1892 Chaplin, T. H. Arnold, B.A., M.B., *24, Finsbury Circus, E.C.*

1892 Cheatle, Arthur H. ... ... *The Evelina Hospital for Sick Children, Southwark, S.E.*

1892 Chetham-Strode, Reginald, M.B., M.C., *104, Bethune Road, Stoke Newington, N.*

1858 **Clapton, Edward, M.D., late Physician to St. Thomas's Hospital, *22, St. Thomas's Street, S.E., and Towercroft, Lee, S.E.*

1864 *Clapton, William... ... ... *27, Queen Street, E.C.*

1885 Clark, Sir Andrew, Bart., M.D., LL.D., F.R.S. (*C*), Consulting Physician to the London Hospital, *16, Cavendish Square, W.*

1889 Coles, Wm. J. ... ... *50, George Street, Croydon.*

1848 **Cooke, Robert Humphrey ... *73, Church Street, Stoke Newington, N.*

When Admitted.

1858 **Corner, Francis M., Co-Trustee, late President, Surgeon to the Poplar Hospital ... ... *Manor House, East India Road, Poplar, E.*

1890 Corner, Harry ... ... *Bethlem Royal Hospital, S.E.*

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1889 Cressy, A. Z. Claydon ... ... *Haysden, Wallington, Surrey.*

1854 **Crosby, Thomas B., M.D., late President, *19, Gordon Square, W.C.*

1885 Davies, Arthur T., B.A., M.D., Librarian, Physician to the Royal Hospital for Diseases of the Chest, Assistant Physician to the Metropolitan Hospital ... *23, Finsbury Square, E.C.*

1879 Davies, John ... ... *91, New North Road, N.*

1883 Dukes, Wm. P., M.D. ... ... *75, Brick Lane, E.*

1889 Dunn, Louis A., M.B., M.S., Senior Demonstrator of Anatomy at Guy's Hospital ... ... *6, St. Thomas's Street, S.E.*

1858 **Durham, Arthur E., late President, Senior Surgeon to Guy's Hospital... ... ... *82, Brook Street, Grosvenor Square, W.*

1872 Fendick, Thomas Rowing *(C)*... *65, Fore Street, E.C.*

1892 Fletcher, Alfred C. ... ... *The Charterhouse, Charterhouse Square, E.C.*

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1854 **Fotherby, Henry I., M.D., Co-Trustee, late President, Consulting Physician to the Metropolitan Hospital, *Woodthorpe Cote, Wray Common, Reigate, Surrey.*

1885 Fox, R. Hingston, M.D., Secretary, *23, Finsbury Square, E.C.*

1875 Galabin, Alfred L., M.D., Obstetric Physician to, and Lecturer on Midwifery at, Guy's Hospital *49, Wimpole Street, W.*

1888 Galloway, A. Wilton ... ... *79, New North Road, N.*

1891 Galloway, James, M.A., M.B., C.M., Assistant Physician to the Great Northern Central Hospital, *16, Finsbury Circus, E.C.*

1890 Gardner, Ernest F. ... ... *Northfield House, Ilfracombe, Devon.*

1863 *Gervis, Henry, M.D., late President, Consulting Obstetric Physician to St. Thomas's Hospital *40, Harley Street, W.*

1884 Gibbings, Alfred T., M.D. ... *93, Richmond Road, Dalston, N.E.*

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1877 Goodsall, David H. ... ... *17, Devonshire Place, Upper Wimpole Street, W.*

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When Admitted.

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1862 **GREENWOOD, MAJOR, M.D. ... *26, Queen's Road, Dalston, N.E.*

1875 *HERMAN, GEORGE ERNEST, M.B., Obstetric Physician to, and Lecturer on Midwifery at, the London Hospital, *20, Harley Street, W.*

1853 **HESS, AUGUSTUS, M.D., late Physician to the Jews' Hospital, Norwood... ... ... *14, City Road, E.C.*

1888 HEWER, J. LANGTON, M.D., B.S. *(C) 29, Brownswood Park, Green Lanes, N.*

1862 **HICKS, G. BORLASE ... ... *149, Amhurst Rd., Hackney, N.E.*

1860 **HICKS, JOHN BRAXTON, M.D., F.R.S., late President, Consulting Obstetric Physician to Guy's Hospital, Obstetric Physician to St. Mary's Hospital ... ... *34, George Street, Hanover Sqre., W.*

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1889 HOGARTH, CHRISTOPHER W. ...

1883 HORROCKS, PETER, M.D., Assistant Obstetric Physician to Guy's Hospital... ... ... *26, St Thomas's Street, S.E.*

1884 HOUCHIN, EDMUND KING ... *23, High Street, Stepney, E.*

1883 *HOVELL, T. MARK *(C)*, Senior Surgeon and Aural Surgeon to Hospital for Diseases of Throat, Golden Square; Aural Surgeon to, and Lecturer on Diseases of the Throat at, the London Hospital, *105, Harley Street, W.*

1889 HUMPHREYS, FRANCIS R. *(C)* ... *27, Fellows Road, South Hampstead, N.W.*

1855 **HUTCHINSON, JONATHAN, LL.D., F.R.S., late President, Consulting Surgeon to the London Hospital, *15, Cavendish Square, W.*

1890 HUTCHINSON, JONATHAN, Junr., Assistant Surgeon to the London Hospital... ... ... *12, Old Cavendish Street, W.*

1884 JACKSON, GEORGE H. ... ... *6, Cliff Bridge Terrace, Scarborough, Yorkshire.*

1862 **JACKSON, J. HUGHLINGS, M.D., F.R.S., late President, Senior Physician to the London Hospital, *3, Manchester Square, W.*

1892 LANG, WILLIAM, Ophthalmic Surgeon to the Middlesex Hospital, and Surgeon to the Royal Ophthalmic Hospital, Moorfields, *22, Cavendish Square, W.*

1885 LARKIN, FREDK. G. ... ... *Grove Park, Kent, S.E.*

1860 **LICHTENBERG, GEO., M.D., Surgeon to the German Hospital, *47, Finsbury Square, E.C.*

1889 LINGARD, ALFRED, M.B., M.S. ... *Poona, India.*

1863 *LITTLE, LOUIS S., late Surgeon to the London Hospital, *Shanghai, China.*

1834 **LITTLE, WM. J., M.D., late President, Consulting Physician to the National Orthopædic Hospital, *Ryarsh, near West Malling, Kent.*

1888 LONG, F. W. DEVEREUX ... ... *31, Finsbury Square, E.C.*

1874 *LUCAS, R. CLEMENT, B.S., M.B., late President, Surgeon to, and Lecturer on Anatomy at, Guy's Hospital; Senior Surgeon to the Evelina Hospital for Sick Children, *18, Finsbury Square, E.C.*

When Admitted.

1892 Lyon, Thos. Glover, M.A., M.D., Assistant Physician to the City of London Hospital for Diseases of the Chest, *8, Finsbury Circus, E.C.*

1869 McCarthy, Jeremiah, M.A., M.B., Surgeon to, and Lecturer on Physiology at, the London Hospital, *15, Finsbury Square, E.C.*

1876 Mackenzie, Stephen, M.D., late President (*C*), Physician to, and Lecturer on Medicine at, the London Hospital, *18, Cavendish Square, W.*

1890 Mackenzie, Wm. J., M.D. ... *Richmond Lodge, 319, Holloway Road, N.*

1891 Manson, Patrick, M.D., LL.D.... *21, Queen Anne Street, W.*

1891 Marshall, Thomas, M.A., M.B. *55, Fortess Rd., Kentish Town, N.W.*

1889 Martin, John ... ... *129, Clapham Road, S.W.*

1850 **Miller, Claudius M., M.D. ... *100, Stoke Newington Road, N.*

1841 **Munk, William, M.D., Harveian Librarian, Royal College of Physicians ... ... *40, Finsbury Square, E.C.*

1837 **Oldham, Henry, M.D., Consulting Obstetric Physician to Guy's Hospital... ... ... *4, Cavendish Place, W.*

1890 Oliver, Franklin H. ... ... *2, Kingsland Road, N.E.*

1884 Openshaw, T. Horrocks, M.S., M.B. (*C*), Assistant Surgeon to the London Hospital ... ... *16, Wimpole Street, W.*

1888 Perry, E. Cooper, M.D., Assistant Physician to, and Demonstrator of Morbid Anatomy at, Guy's Hospital, *The College, Guy's Hospital, S.E.*

1864 **Pettifer, Edmund H. ... ... *50, Southgate Road, N.*

1891 Pierce, Bedford, M.D., Physician Superintendent to The Friends' Retreat, York.

1888 Pitt, G. Newton, M.D., Assistant Physician to, and Lecturer on Pathology at, Guy's Hospital *24, St. Thomas's Street, S.E.*

1881 Poland, John, Secretary, Visiting Surgeon to the Miller Hospital, Greenwich ... ... *4, St. Thomas's Street, S.E.*

1875 Port, Heinrich, M.D., Physician to the German Hospital, *48, Finsbury Square, E.C.*

1882 Potter, George W., M.D., C.M. *8, King Street, Cheapside, E.C., and 3, Belsize Terrace, South Hampstead, N.W.*

1870 Pye-Smith, P. H., M.D., F.R.S., late President, Senior Physician to, and Lecturer on Medicine at, Guy's Hospital, *54, Harley Street, W.*

1851 **Ramskill, J. Spence, M.D., Consulting Physician to the London Hospital... ... ... *5, St. Helen's Place, E.C.*

1890 Raw, Wm. E. St. M. ... ... *Oak Bank, Crystal Palace Park Road, Sydenham, S.E.*

1892 Rawes, William, M.B. ... ... *St. Luke's Hospital, E.C.*

1888 Read, Henry G., Surgeon to the National Dental Hospital, &c., *30, Finsbury Square, E.C.*

1884 Reeve, Henry ... ... *Hollington, Leytonstone, N.E.*

1888 Reynolds, W. Percy ... ... *128, Stamford Hill, N.*

1866 **Rivington, Walter, M.B., M.S., late President, Consulting Surgeon to the London Hospital ... *95, Wimpole Street, W.*

1855 **Roper, George, M.D., Consulting Physician to the Royal Maternity Charity ... ... *Oulton Lodge, Aylsham, Norfolk.*

When Admitted.

1888 RYLE, REGINALD J., M.A., M.B. (*C*) *Hadley Green, High Barnet, Herts.*

1853 **SAUNDERS, W. SEDGWICK, M.D., F.S.A., late President, Medical Officer of Health for the City of London, *13, Queen Street, Cheapside, E.C.*

1884 SCARTH, ISAAC, M.B., B.S. ... *29, Amwell Street, E.C.*

1892 SCOTT, PATRICK CUMIN, B.A., M.B., Physician to the Miller Hospital, Greenwich ... ... *38, Shooter's Hill Road, Blackheath, S.E.*

1892 SEQUEIRA, GEORGE W. ... ... *34, Jewry Street, Aldgate, E.C.*

1890 SEQUEIRA, HENRY J. ... ... *34, Jewry Street, E.C.*

1842 **SEWELL, CHARLES BRODIE, M.D. *21, Cavendish Square, W., and 13, Fenchurch Street, E.C.*

1891 SHADWELL, ST. CLAIR B. ... ... *Lynhurst, Orford Road, Walthamstow, Essex.*

1888 SHAW, LAURISTON E., M.D., Assistant Physician to Guy's Hospital, *10, St. Thomas's Street, S.E.*

1854 **SHILLITOE, BUXTON, Surgeon to the Lock Hospital, *2, Frederick Place, Old Jewry, E.C.*

1869 SMEE, ALFRED H. ... ... *The Grange, Hackbridge, Surrey.*

1887 SMITH, FREDERICK JOHN, B.A., M.D. (*C*), Assistant Physician to the London Hospital and to the Royal Hospital for Diseases of the Chest ... ... *4, Christopher Street, Finsbury Square, E.C.*

1875 STEVENS, GEORGE J. B. ... ... *Wadhurst House, Stoke Newington Green, N.*

1869 STEWART, ALEXANDER ... ... *48, Cornhill, E.C.*

1884 STOWERS, JAMES HERBERT, M.D., Physician for Diseases of the Skin at the North-West London Hospital, *41, Finsbury Square, E.C.*

1880 SYMONDS, CHARTERS J., M.S., M.D., Vice-President, Assistant Surgeon to, and in charge of Throat Department, and Teacher of Practical Surgery at, Guy's Hospital ... *26, Weymouth Street, Portland Place, W.*

1878 TALBOT, RUSSELL M. ... ... *Clarendon House, Bow Road, E.*

1889 TARGETT, JAS. H., M.B., M.S., Assistant Surgeon to the Evelina Hospital and Demonstrator of Anatomy at Guy's Hospital, *6, St. Thomas's Street, S.E.*

1879 TATHAM, ROBERT G., Vice-President, *69, East India Road, E.*

1869 TAY, WAREN, Senior Surgeon to the London Hospital, *4, Finsbury Square, E.C.*

1880 THORP, HENRY J. (*C*) ... ... *11, Southwark Bridge Road, S.E.*

1869 *TOULMIN, WM. C. ... ... *102, Elm Park Gardens, South Kensington, S.W.*

1890 TUBBY, ALFRED H., M.B., B.S., Demonstrator of Physiology at Guy's Hospital ... ... *39, Finsbury Circus, E.C.*

1877 TURNER, F. CHARLEWOOD, M.A., M.D., Treasurer, Physician to the London Hospital ... ... *15, Finsbury Square, E.C.*

1890 WALKER, CHAS. R., M.D.... ... *Gainsborough House, Leytonstone, N.E.*

1887 WALLACE, FREDERICK ... ... *96, Cazenove Road, Stamford Hill, N.*

When Admitted.		
1857	*Wallace, Richard U., M.B. ...	*Cravenhurst, Craven Park, Stamford Hill, N.*
1887	Warner, Percy	*Woodford Green, Woodford, Essex.*
1890	Watson, John A.	*Hay Tor, Dennington Park, N.W.*
1888	Webb, Albert W., M.B.... ...	*246, Albion Road, Stoke Newington, N.*
1876	Welch, Chas.	*377, Hackney Road, E.*
1876	White, John B., M.D., M.Ch. ...	*14, Portland Place, Lower Clapton, N.E.*
1888	Wightwick, Fallon Percy, M.D.	*5, Curlew Street, Horselydown, S.E.*
1888	Wingrave, Thos.	*43, Finsbury Circus, E.C.*
1887	Woods, John F.	*Hoxton House Asylum, N.*
1882	Worley, William C.	*103, Green Lanes, N.*
1889	Wright, Holland H.	*2, Ospringe Road, St. John's College Park, N.W.*
1880	Yarrow, Geo. E., M.D.	*Oakley House, 317, City Rd., E.C.*

[*It is requested that any change of Title, Appointment, or Residence may be communicated to one of the Secretaries before the Annual General Meeting, in order that the list may be made as correct as possible.*]

CORRESPONDING FELLOWS.

Barlow, Robert	*Orlebar, St. Peters, Isle of Thanet.*
Barnard, John H., M.D.	*362, Rue St. Honoré, Paris.*
Canfield, Ralph M.	*Boston, U.S.A.*
English, Edgar	*Mexborough, Rotherham, Yorks.*
Moon, Henry	*Pine Lodge, Weybridge Road, Byfleet.*
Roberts, Bransby, M.D.	*Badlesmere House, Eastbourne.*
Treves, William Knight	*31, Dalby Square, Margate.*

N.B.—Written Communications on Medical Subjects and Donations of Books will be thankfully received.

THE SEVENTY-THIRD ANNUAL REPORT

OF THE

COUNCIL OF THE HUNTERIAN SOCIETY.

In presenting the Seventy-third Annual Report, the Council of the Hunterian Society has the satisfaction of being able to congratulate the Fellows upon the continuance of its activity and prosperous condition.

The best thanks of the Society are due to the President for his valuable and zealous services, and for his assiduous attention to the interests of the Society during the two years in which he has held this office. It is, moreover, by his means that much improvement has been effected in the practical work of the Society. Printed notices have been circulated amongst the Fellows before each meeting, and the attendance at the ordinary meetings thereby largely increased.

The discussions have been instructive and animated, and the work that has been done during the past year has been unusually important.

Towards the close of the last Session the Council decided to institute two Lectures, to be called the Hunterian Society Lectures, the first to be delivered at the opening of the Winter Session in October, and the second at the commencement of the new Presidential term at the end of February. These Lectures are to be free to all members of the Profession. The first Lecture was delivered by a past President of the Society, Mr. Jonathan Hutchinson, LL.D., F.R.S., in October last, "On the Laws of Partnership in Disease," and was largely attended by members of the Profession in the City and surrounding districts.

The Council also devoted one evening to the discussion of "Albuminuria in relation to Life Assurance." The discussion

was introduced by a paper from Dr. Hingston Fox, and was one of great interest, forming an important contribution to our knowledge of the subject.

Other interesting and important communications have been read during the Session, amongst which the Council would refer especially to those by Drs. Galabin, Patrick Manson, Thudichum, James Galloway, and Mr. F. R. Humphreys.

The Clinical and Pathological evenings continue very successful parts of the Society's work.

The Laws of the Society have been completely revised, printed and circulated amongst the Fellows during the course of the year.

After much deliberation the Council decided not to present the petition to the Court of Common Council of the City of London.

The Society has lost three of its Fellows by death since the last Annual Meeting.

Sir J. Risdon Bennett, M.D., F.R.S., who filled most of the high offices of the Profession with great honour, joined the Society 54 years ago, and was the third surviving Fellow on the Roll. He was Vice-President in 1845 and 1846, President in 1860, and delivered the Hunterian Oration in 1849.

Hy. Gawen Sutton, M.B., F.R.C.P., joined the Society in 1864, was Vice-President 1875-76, and Orator in 1876. Dr. Sutton was a frequent contributor to the Society's proceedings in former years, and his deep knowledge of pathology and philosophic insight into the processes of disease gave to his communications a rare value.

Richard Middlemore, of Birmingham, who was a corresponding Fellow for many years, died at the mature age of 86.

Eleven Fellows have been admitted during the same period. Five Ordinary Fellows have resigned, and three have become Corresponding Fellows.

The total number of Fellows is at present 161.

Particulars of the income and expenditure of the Society are set forth in the accompanying balance sheet.

BOOKS ADDED TO THE LIBRARY
OF THE HUNTERIAN SOCIETY, 1891-92.

The following Works have been mostly presented by the Authors or Editors, by the Authorities of the Medical Schools, or in exchange for the Transactions of the Society :—

Practical Medicine.—Sir Jas. Sawyer.
The Mechanism of Circulation through Organically Diseased Hearts.—Herbert Davies.
An Account of an Artesian Well in Story Lane, City.—W. S. Saunders.
St. Bartholomew's Hospital Reports, 1891.
Guy's Hospital Reports, 1891.
Transactions of the Clinical Society, 1891.
Transactions of the Pathological Society, 1891.
The Sei-I-Kwai Medical Journal.
Anatomie Pathologique du Corps Humain—Liv. III., IV. et V.—Cruveilhier. (Presented by Mr. R. H. Cooke.)
Cours d'Accouchement et de Maladies des Femmes.—Jules Hatin.
Hospital Mortality.—Lawson Tait.
Artificial Limbs.—Heather Bigg.
Cloquet's Anatomy.—Dr. Knox.
(The last four presented by Dr. Hingston Fox.)

The following Works have been purchased by the Council :—

Archives of Surgery, Vols. I., II. and III.; parts 9, 10, 11.—Hutchinson.
Surgical Operations, parts 1 and 2.—MacCormac.
Insanity.—Savage.
Text-book of Mental Diseases.—Bevan Lewis.
Text-book of Chemical Physiology and Pathology.—Halliburton.
Fractures and Dislocations.—Hamilton.
Operations of Surgery (2nd ed.)—W. H. A. Jacobson.
New Sydenham Society's publications: Lectures, Vol. I., on Digestion; Vol. II., on Diseases of the Stomach.—Ewald; Acromegaly.—Pierre Marie, and Souza Leite; Lexicon of Medical Terms, part 18.

REGULATIONS FOR TRANSMISSION OF BOOKS TO FELLOWS FROM THE LIBRARY.

1. A Fellow wishing a Library Book sent to him, may order the book by letter to the Assistant Librarian, enclosing six Stamps in prepayment of carriage and packing.
2. The Library attendant will pack and send Books to Fellows, enclosing the usual receipt form in each parcel with the books, and shall receive twopence for each packet so sent.
3. To prevent loss, in case of a Fellow forgetting to send back the receipt, the letter requesting the book to be sent shall be kept by the Assistant Librarian, and the Library Attendant shall keep a list of the books packed by him, and of Fellows to whom they have been sent.

HUNTERIAN SOCIETY.

BALANCE SHEET FOR 1891.

RECEIPTS.

	£	s.	d.
By Balance from 1890	52	14	6
„ Subscriptions—			
Current, 80 ... ... £84 0 0			
„ In Arrear ... 17 17 0			
„ In Advance ... 2 2 0			
Composition 5 5 0			
Entrance 8 8 0			
	117	12	0
„ Dividend on £300 Goschen	8	1	0
	£178	7	6

PAYMENTS.

	£	s.	d.
To Purchase of Books	10	5	4
„ Subscription to New Sydenham Society ...	1	1	0
„ Insurance	1	0	0
„ Printing of Report, &c....	68	10	0
„ Guests at Annual Dinner	3	3	0
„ Clerical Aid to Hon. Secretaries, Postage, Stationery, and Treasurer	9	18	8
„ Sub-Librarian	15	15	0
„ Mr. Goodman	5	1	0
„ Mr. Nelson	2	2	0
„ Refreshments	8	13	0
„ Hon. Sec., Deed-box	1	8	0
„ Repair of Bookcase	2	18	0
„ Collector's Commission and Expenses ...	5	5	6
	£135	0	6
Balance in hands of Treasurer	43	7	0
	£178	7	6

We, the undersigned, having examined the foregoing Accounts, together with the Vouchers, find a balance of forty-three pounds, seven shillings due from the Treasurer. The funded property of the Society amounts to three hundred pounds.

February, 1892.

JAS. HERBERT STOWERS.
DUNDAS GRANT.

THE ANNUAL ORATION OF THE HUNTERIAN SOCIETY, 1892.

BY CHARTERS J. SYMONDS, M.S., F.R.C.S. Eng.,

Assistant Surgeon to Guy's Hospital.

Mr. President and Gentlemen,

When, by the favour of your Council, I was invited to address you to-night, I deemed it my duty, in order the better to fulfil the purpose of this annual oration, as well as to show my sense of the honour conferred upon me, to study the life and writings of John Hunter. I conceive it to be one object of this oration to show how the work, and life of others, may animate our own, and stimulate us to higher aims. In this sense, I have endeavoured to read the life of him, whose birth one hundred and sixty-four years ago we commemorate to-night.

As an able biographical sketch formed the subject of a recent oration,[1] I propose to confine myself to the influence of Hunter's work, and to his personal influence on Surgery and Surgeons. In order to appreciate the effect of his work, it will be necessary first, to study the position of surgery before his time, in the writings of those who preceded, those who taught him, and of those who were his contemporaries. Next I propose to discuss Hunter's own work, and more particularly his method, to note, but only in a very general way, how this teaching differed from that of his predecessors. Then to observe the effect of his teaching, on those who followed him, and to ask what was the attraction of Hunter for those who became themselves celebrated men. Finally, to note the personal influence of Hunter, and to enquire how far his teaching was accepted in his own day.

In the earliest times medicine had reached, in the hands of the Greeks and Romans, a position of great usefulness and importance, and two hundred years before the Christian era the Alexandrian School was flourishing. Here dissections were practised, and with its famous library, every advantage

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[1] By Mr. Clement Lucas.

was afforded for developing the scientific study of medicine. It was here that the practice of medicine was separated into three parts, and each part assigned to a different person, one of whom was supposed to cure disease by compounds of drugs and other substances; another by regimen and plans of diet; and the third by manual operations and instruments.[2] The dark period which followed the destruction of the Alexandrian School, reduced to such a degree the amount of medical knowledge as to make it unnecessary and impossible to maintain this division, and the subject was treated as a whole by succeeding writers. Unfortunately for scientific pursuits, early in the fifth century, the northern hordes swept over Europe, and in the seventh, the Mohammedan power conquered Palestine, Egypt, Northern Africa, and penetrated into Spain. The darkness that followed affected all learning, but the knowledge of books and of the arts remained in Italy, where alone the Roman power withstood the tide of conquest. Here the priests and monks formed the educated class, and being able to read the Greek and Latin authors, acquired a knowledge of medicine, and for centuries the practice of physic remained in the hands of the clergy.[3] The Arabs in Spain established a famous school of learning (including medicine), and here the older authors were translated into Arabic. It is interesting to notice that the Jews, understanding this language, obtained a great ascendency in the practice of medicine, though laws were passed and Papal edicts issued, rendering it penal for a Jew to prescribe for a Christian, yet in every Court a physician belonging to the race was to be found.

In the years immediately preceding the Norman Conquest, a stimulus was given to the study of medicine by the medical schools at Salernum, Naples and Montpelier, which were frequented by students from all parts of Europe. The Salernum School, in the eleventh century, conferred a licence to practice as a physician, and as a surgeon. In reference to surgery, the statute was, that "the person examined must be twenty-one years of age, and must bring testimonials of having studied physic for five years; if to be admitted in surgery, he must

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[2] Abernethy, Oration, p. 14. [3] Rivington.

learn anatomy for one year; he must swear to be true and obedient to the Society, to refuse fees from the poor, and to have no share of the gains with the apothecaries." A critical writer of the twelfth century observes that the students return full of flimsy theories, quoting Galen and Hippocrates. They have two maxims which they never violate: "Never mind the poor; never refuse money from the rich."[4]

So lucrative did the priests find the practice of physic, that they neglected their monastic duties, and incurred the displeasure of the Pope, who, looking upon the manual part as derogatory, issued a decree interdicting the priests from performing any surgical operations whatever. They, however, anxious to retain a hold on this branch, employed their servants, the barbers, to shave the heads of their patients before applying external remedies.[5] "Finding these fellows handy with edge tools, the priests taught them to bleed, and perform the minor operations, as well as to make salves and poultices, and to dress wounds and sores."[6] Hence came the barber-surgeon.

It will be seen then that the separation of physic from surgery was due to an edict of a Pope, the first separation taking place in the beginning of the fourteenth century.[7] The priests were at length compelled to relinquish the practice of physic, which now passed into the hands of some of the learned of the laity, who could read the Latin and Greek authors, while the barbers formed themselves into a fraternity of barber-surgeons. Thus we see that the physician has ever been the scholar, and confident in this superiority, we find him despising his less learned brother. The better of the barber-surgeons soon separated themselves from the barbers, and became very early a company of surgeons.

In London there were many struggles between the barber-surgeons and surgeons. The former were incorporated as a company, while in 1421 the surgeons and physicians united for the purposes of improving the education and position of both branches of the healing art. Unfortunately the union was short lived, and the separation gave rise to mutual jealousies

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[4] "Craft of Surgery." [5] South. [6] Abernethy. [7] Rivington.

and troubles, which continued for over 300 years. So late as 1632 the physicians obtained an order of Council, that no surgeon should trepan, cut for stone, or perform any large operation unless a physician were present, and yet they declined to examine in surgery. This edict was withdrawn in three years.[8] Even after the first separation of the surgeons from the barbers, in 1744, the surgeon was still not allowed to prescribe internal remedies. And in Hunter's time, the name of the physician appeared on the bed-letter when more than a black draught was ordered. Abernethy did much to remove all this, and so did Cheselden. It was on the part of the surgeons an earnest of their desire to improve the position of their art at any sacrifice, that they took with them only the Arris and Gale bequests, leaving the barbers the hall and plate. Pott and Hunter were appointed the Masters in Anatomy at the new Hall of the Surgeons, in the Old Bailey, in 1753. Even in some of the early Hunterian orations—and the first was delivered in 1814—several apologetic remarks occur, indicating that the surgeon, in claiming an equal position for his branch, was careful to avoid slighting the physician.

The preceding sketch shows that it was only just before Hunter's time that the surgeons were placed on an independent basis. It was not till 1800 that the Charter constituting the Company into a Royal College was granted.

Between Wiseman (the first surgical writer of any importance), who flourished about 1660, and Cheselden, one of the teachers of Hunter, no author of any note had appeared. Cheselden wrote a good work on anatomy, and was celebrated for the improvements he introduced into the operation for stone. He took an active interest in the formation of the Company of Surgeons in 1744, and was its first Master. Hunter obtained his first lessons in surgery at Chelsea Hospital, in 1750, under Cheselden, who continued to operate there after leaving St. Thomas's Hospital. He died in 1752. A pupil of Cheselden was Samuel Sharp, who succeeded his preceptor as Lecturer at St. Thomas's in 1730, and was from 1733 to 1757 Surgeon to Guy's Hospital. He published in 1739, "A Treatise

[8] Rivington, p. 46.

on the Operations of Surgery," and here showed that the method of treating wounds was beginning to improve. "Matter," he says, "when it is good is no disservice to wounds, and surgeons should therefore be less curious in wiping them clean when they are tender and painful," a direction one has to inculcate by no means unfrequently at the present day. Again he says, "A tent brings noxious matter in contact with all parts of the sinus, and makes the case worse." He objects to the use of hot ointments, a relic, no doubt, of the boiling-oil treatment of gunshot wounds of Ambrose Paré's time; gives directions for better drainage, by position and compress, and concludes by cautioning the surgeon "not upon all occasions to search into an abscess with finger and probe, as it often tears them open and indisposes them for a cure." He advocates the use of sutures, and Sharp's "cross stitch" suture (for stumps) is referred to by Hunter. But the work by which he is better known is the "Critical Enquiry into the Present State of Surgery," published in 1761. He comments upon the position of surgery, not only in England, but in France, whither as a young man he had resorted for study. In this he advocates the primary suture of divided tendons, objects to the reduction of a hernia without opening the sac, because, as he very truly says, gangrenous intestine or omentum, or irritating fluids may be returned. He moreover recognised that the true cause of strangulation was in the neck of the sac, and not in the external structures; and still more important, he advocates the removal of gangrenous bowel and the suture of the two ends, by placing one an eighth of an inch within the other. This he says was a suggestion of Cheselden. He criticises adversely the ligature of the sac with a view of preventing recurrence. Referring to the use of the ligature in arresting bleeding in operations he says, "In all probability it will at last be more generally established, though at present it is not received with that universal acceptation one would wish and expect" (p. 303). He did much to remove the crude notions in hydrocele, denying the existence of several reputed forms; and Pott, in his excellent monograph, says, "For a particular elucidation of this subject, the chirurgic world is much obliged to the late Professor Monro, of Edinburgh, and

Mr. Samuel Sharp, late of Guy's Hospital, now of Bath." He thus criticises the high operation for stone—"Though the objections have absolutely discredited this way of cutting with the present age, I should not be surprised if hereafter, on particular occasions, it should be revived and practised with success." He further points out, that the most frightful difficulty is the possibility of a contracted bladder; and now that the distension of the bladder can be secured by injection and the use of anæsthetics, the high operation has attained an even more favourable position than he foretold.

Sharp was, as the above extracts will show, a careful surgeon, was well acquainted with the modern and ancient literature of the subjects he discussed. He was "judicious, a lover of simplicity, and wisely doubtful."[10] "Perhaps," he says, "in this inquisitive age, it may appear surprising that for so long a course of time no one should have detected the falsity of this opinion on hydrocele. But it was the fatality of those days, that physicians and philosophers believed the bounds of science were fixed, and all they studied was how to accommodate their opinions to those of Hippocrates, Aristotle or Galen."[11]

One more extract will show his caution, and his accuracy, commenting on the efficacy of the new remedy—Cortex Peruvianus—in gangrene; "perhaps," he says, "it seems strange thus to dispute a doctrine established on what is called matter of fact, but I will here observe that in the practice of physic and surgery it is often exceedingly difficult to ascertain a fact."

Sir W. Blizard, in 1815,[12] pays the following tribute to his memory:—"Samuel Sharp was an eminent example of industry in the pursuit of knowledge; agreeable to the custom in his day, a consequence of the favourable sentiment generally entertained here of the state of chirurgical knowledge in France, he resorted thither, and became accurately informed in the opinions and operative modes of practice of the distinguished surgeons of that nation."

In concluding a reference to the work of this able surgeon, it must be added, that he it was, who started a course of lectures

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[9] "Works," by Earle, Vol. III., p. 14.
[10] Paget, Oration, p. 53.
[11] "Critical Enquiries," p. 78.
[12] Oration, p. 45.

for naval surgeons in Windmill Street, where he was succeeded by William Hunter, so that some of his teaching may have been passed on to the immediate subject of this essay. Still we note an almost total absence of pathology in Sharp's writings; here and there he discourses upon the cause of disease, and offers an explanation of its course; but, as a rule, he, like all others up to Hunter, was practical only.

A more immediate contemporary of Hunter was Joseph Warner, also one of the Surgeons to Guy's Hospital, from 1745 to 1790.[13] In 1784, when 67, Warner—the "excellent Warner," as one writer calls him—published a valuable and instructive collection of "Cases in Surgery." His earlier work on the Eye went through several editions. The cases are well recorded, and give an excellent idea of the mode of treatment of the time. He advocated, and successfully practised, the free incision of the chest in empyema, and directs that the knife be kept to the upper margin, of the lower of the two ribs, to avoid the artery. Referring to the translucency of hydrocele, he points out that in young children the hernia sometimes transmits light. He, however, recommends poultices made of the dregs of strong beer, and gives elaborate instructions for the use of ointments. Many of his methods are rough and severe. Still, on the whole, it must be allowed that he added to the advance of the art. Sir W. Blizard says of him, that "the truth of his observations may be depended on, for his motives were pure and honourable. His pages will be referred to with interest, as expressive in a great degree of the opinions of the surgeons in his day of observation."[14]

But the greatest surgeon by far of this period was Percival Pott. In 1751, Hunter joined St. Bartholomew's Hospital, Pott being then 38, and fifteen years his senior. Most of his works were published in Hunter's lifetime, and to these in his surgical lectures Hunter refers. Certainly, a perusal of Pott's essays on head injuries, on hydrocele, and on fractures, impresses one with the great accuracy of his observation, the

[13] He was, at 17, apprenticed to Sharp, and succeeded him in his lectures. On comparing the dates, it will be seen that these two were colleagues for twelve years.

[14] Oration.

truth of his deductions, and the wide range of his knowledge. He quotes all the earlier authors, writes in an elegant, graceful style, and, indeed, must be considered the most polished medical author of the time. He added many new methods of treatment, simplified many others, and was instrumental in removing many of the more rough and harsh methods in vogue.

The earlier Hunterian Orators at the College—Blizard, Abernethy, his pupil, Norris, and others—all speak in the warmest praise of Pott. He rose to the highest position in surgery; and when he died, still full of vigour and in active work, at the age of 75, Hunter was left the first surgeon of the day, being himself now 60 years old.

Bromfield, who was a colleague of Hunter's, must also be mentioned. "More than any other English surgeon of the time, except Hunter, he might be counted as a scientific surgeon; and whenever he could, he tried to make surgery fit into such physiology as was prevalent in the schools."[15]

One remark applies to all the writings I have referred to—viz., that while there was evidence of the study of morbid anatomy, especially by Pott, there was no pathology in the wide sense of the term, no attempt to show that the course of morbid processes were guided by general laws, and few or no principles of treatment.

A sharp and well-defined line is reached when we examine the writings of the great physiologist and surgeon who forms the subject of our study to-night. For the first time, we read of surgical principles, we are told that the processes of disease must be studied through those of health. The men of his own time pass away almost forgotten, and we see a new era—a "Hunterian era"—arise. It seems inconceivable that in the life-time of one man so much could be accomplished, and we of the present day cannot realize that many of the pathological laws which we discuss with so much familiarity were worked out by Hunter, and that too by his unaided efforts. The one from whom Hunter learnt most was undoubtedly his brother William. "It was under his tuition and patronage that the more peculiar talents of his brother were first elicited and

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[15] Paget, Oration, p. 53.

cherished, and to his example and instructions we are greatly indebted for many of the advantages which have since flowed down through others to us."[16] "That he acquired the best physiological knowledge of the time from his brother's lectures cannot be doubted, but he was not satisfied without examining for himself, and forming his own conclusions." Not satisfied with Haller, he searched for every fact belonging to the subject he was investigating, to form the basis on which he reasons; and Abernethy, who is his best interpreter, says he finds "no inference deduced from insufficient or irrelevant premises." Hunter himself tells us, in the introductory chapter to his work on the Blood and Inflammation, that he compiled the work from notes made in the course of twelve years' residence in London. "During this space," he says, "my time was occupied, partly in my education, under the late Dr. Hunter, and partly in assisting him. In the winter season I was principally employed in the dissecting-room, where I taught the practical part of anatomy; in the summer I attended the hospitals."

The "European Magazine" for 1792, an extract from which is appended to Abernethy's work,[17] contains an account of Hunter's lectures, and as the Editor assured Abernethy that he had the information from Hunter himself, we may look upon the account in the light of an autobiography. From this we learn, that "his purpose is to give a comprehensive view of the system, and investigate the principles upon which the practice of surgery is founded—viz., to show the actions of the body and its parts when in the diseased state, with the actions and efforts of nature to recovery, and the necessary and proper assistance to be given by the surgeon." Again, "He (the surgeon) ought not only to know the whole of any one simple action, or the knowledge of all the actions singly, but he should ascertain their correspondence, mark their relations, and acquire a competent idea of the compound actions and general fabric of the machine. Mr. Hunter having observed, that the greatest part of the books published on surgery contain little else than relations of cases and modes of treatment, and

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[16] Chevalier, Oration, p. 38. [17] Introduction to Physiological Lecture, 1814.

that the practitioners have been too easily satisfied with a collection of facts, without embracing the catalogue of diseases as a system, proposes in his course to examine the theory and principles of diseases in a regular series. His ideas, his mode of reasoning, as well as his arrangement of diseases, are new, and he, therefore, has received little aid from books or from other professors. The novelty of his ideas occasions also the application of new terms ; and those which he has given, we may consider as clear and explanatory, since they are adopted by others, and brought into use."

From 1760 to 1763 he was with the army on the Continent, whither he went to recruit his health, which had suffered from the assiduity with which he had prosecuted his enquiries into the anatomy of the lower animals. On his return, he began teaching, in order to obtain an income, and from this to the day of his death he taught regularly, and indeed never appears to have left London, unless compelled to do so for the restoration of his health.

In 1773, when he was 45, he began a course of lectures at St. George's Hospital. These he relinquished in 1792, handing over to his successor, Home, his manuscript, with notes on the fly-leaf of the specimens he employed for illustration. These original lectures never were published, nor did Home preserve them, but for reasons best known to himself, they were destroyed, with many other even more valuable writings. Happily, among the many who listened to Hunter, there were some who took careful notes, and from those made in short-hand by Mr. Rumsey, the able editor of Hunter's works, Mr. Palmer, has compiled the lectures. He did not during his lifetime publish any important surgical work—that on Inflammation was partly through the press at the time of his death, and was published in the following year. In this masterpiece we have his mature opinions, criticised from year to year by himself, and by many generations of pupils.

In the introduction he says :—" About the year 1770, when I began my lectures on the principles of disease, inflammation was the subject of a considerable part of them ; and, from that time to this (1792), though I have been extending and correcting the materials, my principles remain the same. To distinguish

the different species of inflammation, and to express my own ideas the better, I was naturally led to substitute such terms as appeared to me more expressive of what was meant, than those usually employed. The best test of the propriety of these terms is, that they have been adopted by many medical writers since that period; and indeed my principles have undergone the same kind of test. In this some medical writers have been very liberal, for not contented with taking hints, they have even laid hold of large portions of my lectures, screening themselves under the very honourable protection of their not being in print, and at the same time quoting authors to show their reading and their 'candour.' It would appear that they consider the discoveries and opinions of a lecturer, found probably in a manuscript, as fair game; though their delicate attention to the rights of another would, no doubt, have prevented them from adopting the same doctrines had they been actually in print. Such freedoms have made me anxious to publish, not only because the public interests itself in the origin of every discovery or opinion, but because I wish to preserve my right, and also to give in a more perfect form, what was thought worthy of the public even in a mutilated state. My respect for that public, however, has withheld me hitherto from publishing, that I might first be able to complete my subject as far as time and other circumstances would allow me. I hope this publication will at least have equal good effects with those I have before produced, not only enabling persons to write on the same subject, who otherwise could not have done it, but even to become critics in matters of which till then they were entirely ignorant. I have endeavoured, as far as my other pursuits would permit, to form this work into a regular system—one part exactly depending on another; how far I have succeeded the world must judge; but, at the same time, it ought to be considered as a new figure, composed from rough materials, in which process little or no assistance could be had from any quarter, wherein the author is conscious of many imperfections, more of which he is persuaded he shall himself observe at every successive review."

This work was, there is every reason to believe, eagerly read by the leading men of the time. We find, for instance,

Abernethy saying (in 1814), "I know of no book to which I can refer a surgical student for a satisfactory account of these febrile and nervous affections which local disease produces, except that of Mr. Hunter." I think to those who have passed from the period of studentship, that part of the work which deals with the pathology of inflammation will be found as instructive to-day as it was in the time of which Abernethy speaks. For instance, he defines inflammation as "an increased action of that power which a part naturally possesses; and in healthy inflammation, at least it is probably attended with an increase of power; but in inflammation which terminates in mortification, there is no increase of power, but on the contrary, a diminution of it." He means by power, I take it, the ability of the part to direct the processes in health, and in disease, the controlling influence over the action or life of the part. So long as the power is capable of directing the processes, the course of the inflammation will be conducted to the advantage of the part, as in the union of wounds; but when the ruling and guiding influence is over-balanced and conquered, then action, or rather over-action, having its sway, a destructive termination results; or, as Hunter puts it, "a diminished power, joined to an increased action, becomes a cause of mortification, by destroying the balance which ought to subsist between the power and action of every part."

In these remarks on the power of resistance, we are reminded of the latest discoveries in the pathology of cell-action—I mean the attractive views on the phagocytic action of leucocytes. It is a good example of what is to be noticed all through his work; he is always suggestive. As you know, it was not till many years later that the part played by the cells was discovered, and not till later still that bacilli and other destructive agents were shown to be the cause of the inflammatory processes. Hunter, however, recognised that there are "causes of mortification preceded by inflammation which do not arise wholly from that as a cause, but rather seem to have something in their nature, and of this kind is the carbuncle." Thus, as I have mentioned above, does he point out the differences, and without attributing the variation, as the older writers would have done, to evil juices and spirits, at

once directs the thoughts of others into the appropriate channels of discovery.

He is still more instructive when he speaks of the treatment of mortification. "If," he says, "this account of mortification arising from no specific nature be just, we shall find it no difficult matter to establish a rational mode of cure." He objects to the too liberal use of wine, because of the depression that follows; and as to local measures, he advises the greatest discrimination. The criticisms on the methods in vogue, show that he wished to teach only from general principles founded on pathology. He says, "Upon the principles here laid down, the bark is the principal medicine as yet known that we depend upon, as it increases the powers and lessens the degree of action. Upon many occasions opium will be of singular service, by lessening the action, although it does not give real strength. I have seen good effects from it both when used internally in large doses, and when applied to the part. It is proper also to keep the parts cool, and all the applications should be cool."

I have given this lengthy extract, because it affords a good example of his method of dealing with treatment, a method that no one used before. He leaves his readers to work out for themselves the details. Let us for a moment recall that, when Hunter was teaching in this way, there was no other lecturer in London who attempted a similar method; indeed there were some who thought that in his investigations in anatomy and physiology he was wasting time. A colleague at St. George's, when asked to join in giving a series of lectures, replied that he did not think that the art could be improved. So much were many at variance with his teaching, that Hunter was not unfrequently annoyed at the opposition he encountered. Had not his views proved by the progress of our knowledge to be correct, this remark would only show an irritable state of mind, and an arrogant one too. Listen, however, to one who heard him lecture and who knew him well—Abernethy. "He seemed to me conscious of his own desert, of the insufficiency and uncertainty of his acquirements, and of his own inability readily to communicate what he knew and thought. He felt irritated by the opposition he had met with in establishing his

opinions, and still more by finding, when he had surmounted this difficulty, that these opinions were, by the malice of mankind, ascribed to others. All which I think may be fairly inferred from a single sentence he one day addressed to me. 'I know,' he said, 'I am but a pigmy in knowledge, yet I feel a giant when compared with these men.'" [18]

I will now quote a passage in which he sums up many of the points of which he has been treating. It affords an example of his method of generalization; and here it must be remembered, that this inference is the outcome of many years of thought, of observation on healthy and diseased processes, and of experimental investigation.

"As disease is a wrong action of the living parts, the restoration to health must first consist in stopping the diseased dispositions and actions, and then in a retrograde motion towards health.

"In treating systematically of such complaints as are the object of surgery, we should always begin with the most simple, and advance gradually to the more complicated, by which means we shall be more clearly understood.

"There are many complaints requiring the attention of the surgeon, which cannot be called disease, because they have been produced by something foreign to the body, as in accidents. They are to be considered as a violence committed upon it, altering in some degree the structure of parts, and consequently interrupting the natural operations already described.

"The parts so hurt, not being able to pursue their original or natural mode of action, are obliged to deviate from it; and this deviation will occur according to the nature of the violence, the nature of the part, and the state of the constitution at the time. An alteration in structure requires a new mode of action for its restoration; as the act of restoration cannot be the same with what was natural to the parts before any alteration had taken place.

"The alteration of structure by violence requires only the most simple change in the natural action of the part to restore it; and of course, the most simple method of treatment by art,

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[18] Physiological Lecture, p. 199.

if it be such as to require any assistance at all; for there are many accidents where none is necessary. It will be proper to observe here, that there is a circumstance attending accidental injury which does not belong to disease—viz., that the injury done has in all cases a tendency to produce both the disposition and the means to cure.

"The operations of restoration arise naturally out of the accident itself; for when there is only a mechanical alteration in the structure, the stimulus of imperfection taking place immediately calls forth the action of restoration; but this is contrary to what happens in disease; for disease is a disposition, producing a wrong action, and it must continue this wrong action till the disposition is stopped or wears itself out; when this salutary effect however has once taken place, the state of the body becomes similar to that in a simple accident—viz., a consciousness of imperfection is excited, which produces the action of restoration."

The directions he gives for the treatment of wounds are, when we consider the time they were written, so novel, and so different from those of the other writers of the time, that I will trouble you with one more extract. "Whenever a clean cut wound is made in sound parts, and when the surfaces can be brought into contact, or when there is sufficient skin to cover the part, this practice may and should be followed." For uniting the edges he preferred plaster or the "dry suture," as it was called. "The interrupted suture is now," he says, "in great measure laid aside in practice, not from the impropriety of uniting parts by this process, but from the ineffectual mode of attempting it. In what manner better methods could be contrived, I have not been able to suggest."

In treating of lacerated wounds, nothing more complete, and at the same time more terse, could be written. He recognises the reason why contused wounds must suppurate, points out how suppuration may be minimised in lacerated wounds, and over and over again does he insist on the value of blood for a covering to wounds; not only because it is the most natural, but because it does in part organize, and on this ground directs, that it is unnecessary to be too careful in the sponging out of wounds.

Another practical conclusion he draws from the study of the process of union of wounds is so exactly that upon which we insist at the present day that I am induced to quote again. I mean the treatment by rest, with dry and infrequent dressings. "If the edges cannot be brought into complete apposition, they must unite by another process than the first intention. If kept moist they will inflame as deep between the cut surfaces as the blood fails in the union, and there suppurate and granulate; but if the blood is allowed to dry, and form a scab, between and along the cut edges, then inflammation and suppuration of those edges will be prevented, and this will complete the union."

Of the influence of rest he writes:—"The first and great requisite for the restoration of injured parts is rest, as it allows that action which is necessary for repairing injured parts to go on without interruption, and as injuries often excite more action than is required, rest becomes still more necessary. Rest is often admitted from necessity, as in the fracture of a leg, but seldom where motion is only an inconvenience."

In the accounts of his published cases, we read of the first dressing being made on the fourth, or again on the seventh day. In the interesting article on scabbing there are many valuable suggestions; he points out the injurious effects of a poultice in a graze of the shin, and the value of assisting the formation of a scab. In burns and scalds he also advises the use of flour to hasten the scab formation. In recent wounds we now seal with antiseptic powders, such as boric acid and iodoform, with or without collodion, while Hunter employed blood; and in our day, before we used the aseptic gauzes, we were accustomed, like Hunter, to allow the blood to coagulate on the surface in cases of compound fracture.

Such teaching as this marked an immense advance in scientific thought, and we can understand how these views would be welcomed by the younger men. For the first time surgery was taught as a science; the processes of healing and restoration of injured and of diseased parts were shown to depend on the operation of large and fixed laws. He showed, moreover, that there was one pathology for medicine and for surgery; that medicine in its widest sense was one and indivisible, and must be studied as a whole, for no part can be

understood if it be studied without reference to the rest of the body. The physician must understand surgery, and the surgeon the medical treatment of disease.

When we remember that in Hunter's time a surgeon was not supposed to give internal remedies beyond a black draught, the importance of this welding of the two branches of medicine by means of a common pathology will be appreciated. As we read this great work to-day, we feel a glow of interest, we catch the enthusiasm of a man who investigated for himself, who speaks unfettered by authority, who moreover tells us truths which we in our time have seen verified, and withal, we note the great charm of humility, and his recognition of the fact, that he is but on the threshold of the subject.

It has been said, and it is no doubt true, as Owen pointed out, particularly with regard to the blood, that Hunter was in many things ignorant of the work that had been done by those who preceded him, or who were working in the same direction. This led him to find that he had been anticipated by others, and gave moreover to those who were opposed to him the means of undervaluing his discoveries. But it was not so much what Hunter discovered, as the use he made of his observations, in building up his general principles and laws. I think it is not a matter for regret that he worked alone, or almost so, for already master of human anatomy, his researches necessitated the examination of five hundred different species of animals, exclusive of repeated dissections of different individuals of the same species.[19] To the classification of these he brought a powerful intellect, an indomitable industry, an original method, and working on entirely new lines, he drew from his immense collection of facts the general laws and principles to which I have referred. Surgery he raised from a practical art to the dignity of a science, and showed to physician and surgeon alike that in the treatment of disease there was one common principle. Writing on this, one who knew him well says, " that which made him so superior to his competitors was his original expanse of thought, his being exempt from that prejudice in favour of ancient authorities

[19] Owen, in " Hunter's Works," by Palmer, Vol. II., p. 7.

which fetters the youthful mind; it was his steady determination of investigating for himself, his deep scrutiny of every object that came under his inspection, his vigorous intellectual activity."[20] Had Hunter published an account of all the dissections he had made, he would have been considered undoubtedly by all, the greatest contributor of his time to the subject of comparative anatomy. All his observations were carefully recorded in manuscript, and filled more than one hundred volumes. But he had higher aims than the reputation of a mere collector of facts. For instance, on one occasion the subject of animal heat was discussed at a meeting of the Royal Society which drew from Hunter a valuable paper on the heat of animals and plants, the result of years of observation and reflection. In a manuscript relating to a dissection of a turtle he says, "The late Sir J. Pringle, knowing of this dissection, often desired me to collect all my dissections of this animal and send them to the Royal Society, but the publication of a description of a single animal, more especially a common one, has never been my wish."[21]

In proof of the important general principles at a knowledge of which Hunter had arrived, Owen quotes the following passage from a description of the drawings illustrative of the development of the chick.

"If we were capable of following the progress of increase, of the number of the parts of the most perfect animal, as they first formed in succession from the very first, to its state of full perfection, we should probably be able to compare it with some one of the incomplete animals themselves, of every order of animals in the creation, being at no stage different from some of those inferior orders; or in other words, if we were to take a series of animals from the more imperfect to the perfect, we should probably find an imperfect animal corresponding with some stage of the most perfect."

"We may, I think," says Owen, "perceive, from the evident difficulty with which Hunter expresses the idea, that his mind was oppressed with both its novelty and vastness. Men's thoughts require to be familiarised with propositions of such

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[20] Thomas, Oration. [21] Owen. *Ib.*, p. 6.

generality before their exact limits and full application can be appreciated."

The obscurity of his style has often been regretted, and it has been attributed to the want of education. He did not possess that full acquaintance with our language which would have enabled him to command words, with nearly the same meaning, and so to express accurately the idea he wished to convey. But I doubt if the want of education made all this difference. I rather incline to the view, that where obscurity exists it is due to the effort he made to draw from an immense crowd of facts a general law. Moreover, his was a new way of dealing with the subject, "and when we remember that his originality of thought and his independence of judgment, leading him to differ from many who had preceded him, had formed a gradual chain of new and extraordinary discoveries, which in a manner exhausted the language of science, we can scarcely wonder at that obscurity in his writings which we have occasionally to lament."[22]

As I have said in an earlier part of this address, the period following Hunter's time stands out in great contrast with that which preceded him, and to his efforts, more than to those of any other, was this difference due. Equally striking is it to observe the men who followed Hunter and carried on his work, and to note that they were his pupils. Amongst the most brilliant were Cline, Abernethy, Carlisle, Astley Cooper, Everard Home, and James Earle, all men who have left their mark in surgery.

It was not his eloquence that attracted an audience, for his style of lecturing was unattractive. "He was not," says Abernethy, "a brilliant character amongst us. He had not the happy talent of displaying the stores of his mind, nor of communicating to others the same perception of the importance of his facts and observations as he himself entertained."[23] He read slowly from manuscript, seldom raising his eyes, and those who wished to learn had to pay the closest attention to follow him through the steps by which he passed to his general conclusions. He seems to have disliked lecturing, but continued

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[22] Thomas. Op. cit. [23] Lecture, 1815.

to do so for twenty years, considering the annual review in the light of a criticism of his work. His class was small, but there can be no doubt it contained the best students of the time. His very method of lecturing shows that he was still thinking over the subject, was still criticising himself, and correcting what he had written. He attached no value to opinions that were not based on facts, and as his store of facts increased, he would make the necessary alterations in his inferences.

To a pupil—Astley Cooper—who asked with surprise whether he had not the year before stated an opinion on some point directly at variance with one he had just put forth, he replied, "Very likely I did; I hope I grow wiser every year."[24] Occasionally he would say to a pupil whom he saw taking notes, "You had better not write down that observation, for very likely I shall think differently next year." Such remarks as these indicate the searcher after truth, and show that he did not consider the subject he was discussing finally settled. Moreover, he illustrated his lectures from his museum, the most extensive of the time. It was not till after his death that his leading work was published, so that his influence upon others was largely due to these lectures, and there can be no doubt that his very hesitation to publish, until he could be sure of the truth of his conclusions, led others to pay particular regard to what he said.

He was attractive in another way—viz., in the influence of his great and untiring industry. The effect of this point in his character is well illustrated by the account of a personal interview given by one of the earlier orators at the College. "Upon my first arrival in London, on presenting a letter of introduction from a mutual friend, he desired to see me at five the next morning! Having already the greatest respect for his great professional talents, it may be easily imagined to what height my curiosity was raised by so extraordinary an appointment. No one will doubt my punctuality of attendance. I found him in his museum, busily engaged in the dissection of insects. The interest which he seemed to take in his employment; the sagacity of his observations on it; the acuteness of

[24] Ottley's "Life," p. 48.

his general remarks upon whatever subject was started; the almost blunt manner in which he questioned me respecting my medical education, united to the kindness of his admonitions relative to my future plans, made a very forcible impression on my mind; it was a mingled feeling of profound respect, surprise, and admiration."[25]

"It is," says Abernethy, "scarcely credible with what patience Mr. Hunter examined the structure of the lower kinds of animals. He constructed spectacles, with glasses of different degrees of magnifying power, so that by a slight alteration of the position of the head he could look through the one or the other. Mr. Clift tells me he would stand for hours motionless as a statue, except that with a pair of forceps in either hand he was picking asunder the connecting fibres of the vessels or parts." This was written of him in the year of his death.

Another reason why he attracted others was the freedom with which he communicated all he knew on any subject. Careful and particular as he was that nothing should be published till it had been subjected to the test of a long criticism, he was free and open in his communication by word of mouth. Indeed it was by this method, more than by his published writings, that he diffused his information. "There was," says Norris, "in Hunter an openness, and a free communication of such remarks as could interest those of his own profession, and consequently mankind."[26] "His candour," says Abernethy, "was evident in all his actions; he readily told all he knew or thought on every subject."

"His," says Chevalier,[27] another pupil, "was that true and lofty spirit of science which will not condescend to seek for eminence or wealth, by arrogating a degree of skill and dexterity that no other can attain, or vaunting a remedy with which no one else is acquainted, but which rests for its reward on the fair fame and merits of its acts; which is ever intent on the discovery of truth, and is then most of all delighted when it can effectually assist others in the common labour and duty of us all—the advancement of human knowledge and the alleviation of human distress. It was this which gave to his example,

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[25] Thomas, Oration, 1827, p. 415. [26] Oration, 1827. [27] Oration.

and to his efforts for the improvement of his profession, that moral and enduring force, without which they would have failed of their aim; he was as willing to awaken and assist the researches of others as to prosecute his own. The thing that vexed him most was to see so much to be done, and so few disposed to take a part in doing it.

"It was with a view to form and to develop such useful characters that, in conjunction with his learned friend, Dr. George Fordyce, he founded the Society called the Lyceum Medicum Londinense, for the benefit of students, as well as for settled practitioners in each branch of the profession. To this Society he gave gratuitous permission to meet weekly during the season in his lecture-room, where he generally displayed for their inspection the most interesting and instructive additions that were made to his museum."

The formation of a society for discussing medical and scientific subjects, referred to in the preceding paragraph, was another means of diffusing knowledge, and another proof of the freedom with which Hunter gave to others the results of his work.

In 1767, Hunter proposed to a few friends that they should adjourn from the Royal Society to a tavern, and discuss the subjects in which they were more immediately interested. Out of this, the earliest attempt to form a society for the discussion of medical subjects, arose the Lyceum Medicum. "It met weekly in the lecture-room in Leicester Square, and was numerously attended by men of general science."[28] This was, so far as I can discover, the same Society as that called "The Society for the Improvement of Medical and Chirurgical Knowledge," from which were issued two volumes of transactions, both containing important papers by Hunter, also one written by Home, from materials supplied by Hunter, contains a full account of the operation for aneurysm.

Besides all that Hunter accomplished for surgery, beyond all the trouble he took to improve the position of the surgeon, there was in his personal character that which attracted others to himself, and to his mode of study. That he was a genius cannot be doubted by any; that he was a deep and profound

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[28] Norris.

thinker is evident, not only from the proofs of this contained in his writings, but we learn it as well from those who knew him. Cline, whose oration for 1816 was unfortunately never published, but who knew him well, says—"Much as Mr. Hunter did, he thought still more; he has often told me his delight was to think"; and indeed no one can contemplate the celebrated portrait hanging in the College library without appreciating this side of his character. He is sitting in an attitude of deep reflection, as if about to combine a series of observations into one grand law.

His was that kind of genius, however, which was steadied and controlled by a love of truth, by great industry, and more than all, by a profound humility, not only in regard to his own powers, but also as to the work he had accomplished. His constant saying was, "We are but beginning to learn our profession"; and though he was aware of the value of his observations, and saw by anticipation the effects that they might produce, and was not unfrequently irritated at the unwillingness of others to accept the conclusions at which he had arrived, and the truth of which he was able and willing to demonstrate; yet he was often heard to declare that he was not conscious of possessing any peculiar talent, and that if he had promoted professional knowledge, it seemed to him chiefly to have arisen from his disposition to distrust opinions and to examine every subject for himself.

With no one else can Hunter be compared more accurately than with Newton. Their methods were much alike. As did his great predecessor, so Hunter, having grasped the great truths of pathology, submitted them to the test of more than thirty years of criticism before he felt justified in giving them to the world, with the authority that attaches to a printed publication. To this day many of his laws are as true as when they were deduced. That others have not stood the test of recent advances is but the fate of all forms of knowledge. That which is admitted to be true and wise to-day may, by the advance of time and the progress of science, be compelled to yield to wider knowledge. As the most eloquent of all Hunter's orators has beautifully said, "And in this is no disparagement of knowledge. That cannot be despicable which is, for the

present, the best possible, and has in itself capacity for change to a yet better future. But, similarly, that must not be despised which, in the past, was good, and though it fell short of the truth was not wholly erroneous from it. So, in estimating Hunter's contributions to the truths and laws of science, we must not scorn all those which have not borne unchanged the test of time; it would be as unreasonable to scorn a noble ancestry."[29]

As I have mentioned before, Hunter seemed always delighted to communicate what he knew and thought to others; he did not conceal his designs, and soliciting the assistance of others, was ever willing to help in return. To young men he gave much assistance and advice, and nothing seemed to please him more than a well dissected specimen. When Carlisle brought him one day a preparation of the internal ear, Hunter, to whom he was a stranger, immediately gave him a free ticket of admission to his course of lectures. To those in distress he seems to have been generous to an unusual degree, and from this and the amount he spent on his collection, he died leaving his family unprovided for. I think from Ottley's Life, we are apt to get the notion that Hunter was rough, abrupt, and brooked no other opinion but his own. Mr. Clift, however, in his letter to Sir W. Lawrence,[30] expresses indignation that so many stories, by no means true, should have been given to the public; and denies, for example, that the tendo-Achillis was ruptured while dancing, asserting that it took place, on rising and stretching himself on his tip-toes, after a long period of close dissection—an explanation quite as reasonable as that advanced by his biographer. He was a man too of "very considerable humour. His views of subjects in general were quick and peculiar, and when so disposed, he could place them in a very ludicrous point of view." Abernethy also says that he had a great deal of drollery in his composition. And Mr. Clift, who acted as his amanuensis for the last year and a half of his life, tells us "he was mild and kind in his manner, but not servilely courteous, to everybody, and I believe made no distinction between high and low, great or small."

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[29] Paget's Oration, p. 30. [30] Oration, 1846.

When, after many years, and yet without having sought the position by artifice, he had attained to the foremost place in the profession, and "when the abstract acquisitions of his study had become blended with copious experience, he was appealed to by physicians and by surgeons as a final judge upon all unsettled questions in pathology. And even in the full matureness of experienced wisdom he dispensed his decisions with unabated anxiety and painful solicitude."[31]

It would be impossible to conceive a finer tribute to the knowledge, the wisdom, and the professional standing of any one. To be valued by others for careful judgment, founded on a deep knowledge of disease, and also for the care and caution with which the opinion is delivered, is to attain a high position in our profession.

In the last year of his life he is still full of scientific work; he would at this time, though over sixty, stand for hours at a dissection "as if nailed to the spot."

Such is the character of Hunter, so far as I have gleaned from those who knew him, and those who were best able to interpret his mind. Inadequately as I have portrayed the influence of his great mind on the men whom he taught, imperfectly as I have sketched the method he used, and the results he attained, I trust that the effect of my work may at least induce others to make themselves acquainted with his writings.

Fortunately for surgery, Hunter applied the results of his investigations to the improvement of practical details. He did more than any other man to raise the position of surgery. He perceived that no system of physiology could be perfect that did not explain the morbid as well as the healthy actions of life, and therefore, says Abernethy, "he appears to me as a new character in our profession; and briefly to express his peculiar merit, I may call him the first great expositor of disease." As I have shown in an earlier part of this address, he was the first to deal with the processes of disease, to show that pathology was a science.

"I am," says Abernethy, "old enough to remember the state

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[31] Carlisle's Oration, 1820.

of surgery and surgeons, in this metropolis, previous to the general promulgation of the new facts and opinions he added to the stock of professional knowledge, and I believe him to be the author of a great and important revolution in medical science." "Who," he says in another place, "first explained in a physiological and satisfactory manner the diseased processes I have referred to—the formation of abscesses, the secretion of pus, the instertial and other growths, the cause and circumstances of mortification—was it not Mr. Hunter? We now hear no more of those ancient metaphors, concretion and erosion, but we find all the morbid changes accounted for by perverted action of the ordinary powers and structure of parts, clearly perceiving that the same powers and organisation which, by their natural and common actions, produce health and beauty of appearance, do, when perverted, occasion disease and deformity."

Another writer, who for many years was his assistant, and who knew him better than anyone, says, in the first oration at the College, "From the time of Hunter our profession has no longer been confined within the narrow limits of a practical art; assisted by his labours, it has acquired a new character, has assumed a more elevated form, and has expanded itself into a science." [32]

All the surgery before Hunter was only that of experience. Others, as I have shown, wrote well on practical matters, and none better than Hunter's great colleague, Pott; but "with the science and the exposition of principles Hunter alone deals worthily." [33]

"Hunter," says Lawrence,[34] "found surgery a mere mechanic art, hardly emancipated from its connection with the occupation of a barber. He left it a beautiful science, equal to any in attractive interest, and inferior to none in its capability of alleviating human suffering." Slowly, as I have sketched in an earlier part of this address, surgery has been improving, and increased facilities were obtained of acquiring a knowledge of anatomy; but the rare combination that occurred in Hunter, of deep scientific thought, with a desire to apply his discoveries

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[32] Home's Oration, 1814. [33] Paget, p. 29. [34] Oration, 1846.

to the alleviation of suffering, and the progress of surgery, operated to raise the art into a science. Time does not permit my dealing with the celebrated discovery of the means of treating aneurysm, and the reasons which led him to suggest the method. It is an evidence of Hunter's belief, that what is true will endure, and in the end will prevail, that he never wrote a single line to recommend this operation. The first account was published during his lifetime by Home. In his lectures,[35] Hunter, after strongly advocating the method of laying open the sac and of ligaturing the vessel above and below—a method at that time condemned by the majority of surgeons—thus refers to the new operation. Writing in 1786, a year after the operation, he says—"In December, 1785, I performed the operation in a manner different from that ordinarily practised, and with success. The particulars are given in the 'London Medical Journal.' I would only observe, that in future I would advise only tying the artery in one part, and not to endeavour to unite the wound by the first intention." Such is his brief reference to this great improvement in surgery.

There is, perhaps, no piece of his work that shows more clearly the value of the application of physiology to the practice of surgery than this operation. Hunter connected pathology with physiology, and it is impossible ever to disjoin them. "Before him surgery and physiology were far asunder, no one strong mind had ever deeply studied both, and become conscious that both were parts of the same science of living things, and that each might give light to the other, and each be a test of the other's truth. This was Hunter's greatest work for surgery. He brought the scientific method into the study of the practice, and he welded scientific knowledge with the lessons of experience." [36]

To quote once more our most eloquent and most graceful writer, whose thoughts are ever worthy of the widest circulation. "The influence of such men as Hunter reaches far beyond the time and space of their conscious activity; their true thoughts live after them. Their true thoughts not only endure and remain in the continuity of mental life, they really live; they

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[35] Palmer, Vol. I., p. 551. [36] Paget.

pass on from one generation to another, and in the minds of each succeeding generation they are developed—they grow—they attain more nearly to perfection. . . . Thus when we honour the memory of Hunter, we honour not only that which is passed, but that which is still present; a still abiding power doing good. For Hunter's true thoughts still live in us, and they will live after us, and never cease to help and urge men onward in the pursuit of truth.

"In the world of mind, he that is mortal may produce that which may be immortal." [37]

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[37] Paget's Oration, 1874.

SESSION 1891-1892.

A Meeting of the Hunterian Society was held at the London Institution, on Wednesday, February 25th, 1891. Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. C. R. Walker was admitted as an Ordinary Fellow.

Dr. Patrick Manson, Dr. Jas. Galloway, and Mr. Hope Grant were proposed for election as Ordinary Fellows.

Dr. W. Hunter and Dr. Lewis Jones were present as visitors.

A paper was read by **Dr. J. L. W. Thudichum** on *Urochrome: its alleged derivation from the Pigments of the Blood and Bile, and on the bearing of the Alkaloids and Extractive Acids of the Urine in Gout, &c.* The normal yellow pigment of the urine—urochrome—was, he said, an *alkaloid*, precipitable by nearly all the specific reagents for alkaloids, particularly by phospho-tungstic and phospho-molybdic acids in acid solution (the reactions and precipitates were demonstrated), being thus isolated, together with five other alkaloids; from the united solutions of these, urochrome is precipitated by ferric chloride in very dilute solution; separated from the ferric oxyde it is pure. This pure urochrome, entirely soluble in water, is, under the influence of acids and heat, immediately split up into at least four products insoluble in water: *Melanogen*, which by further change passes into uromelanin, *uropittin*, *omicholin*, and *omicholic acid*. Uromelanin, and the complex of the other three bodies, were originally noticed by the French chemist, Louis Proust, in 1801; but as he did not employ ether, he did not recognise that his second so-called resinous matter consisted of three substances, of which the omicholin bodies are soluble in ether, and isolated thereby.

Uromelanin, as the most stable end-product of the decomposition of urochrome by acids or putrefaction, has been analysed by itself and in many compounds, and proved to have

the atomic formula $C_{36}H_{43}N_7O_{10}$. The others have also been analysed, found to be of high atomic weight, to be nitrogenised, but not having been combined, their formulæ are uncontrolled. By the chemolysis of the pure urochrome Dr. Thudichum had proved that the *fatty acids*, *formic*, *acetic* and traces of *higher ones*, which are evolved from urine by distillation with sulphuric acid, or by putrefaction, do not proceed from the chemolysis of the pigment.

When a precipitate by lead acetate from urine is decomposed with sulphuric acid, there are set free a number of acids, and the mixture gets hot; *urochrome* is liberated, but decomposed immediately, and the turbid watery solution gives a spectrum of *uropittine*; this dissolves in chloroform, and in that state has been called *urobilin*. There is no such substance as urobilin ready in the urine: it is the result of decomposition by acids of urochrome, and only one out of four products. Nevertheless, all the books on physiological chemistry and physiology repeat the fallacy that this was the normal colouring matter. By itself the urobilin fallacy would have had no existence, but it was bolstered up by the alleged discovery that urobilin was identical with *hydrobilirubin*, a product obtained from bilirubin by sodium-amalgam, therefore a product of reduction. The author had disproved this entire allegation in all its details in a paper printed in the "Chemical Society's Journal" for May, 1875.

Thus compelled to abandon the urobilin fallacy also, its supporters invented the hypothesis—now defended at Strassburg only—that there was no special urinary colouring matter at all, but that the colour was caused by *carbohydrates* (observe the plural), which became oxydized in transitu through the kidney. This is a mere confusion of urochrome with *kryptophanic acid*, the so-called extractive acid of the urine, and which a student in the Strassburg laboratory declared to be animal gum. He did not obtain gum, but a nitrogenised substance, from which he could not separate the nitrogen. Fifteen compounds of kryptophanic acid obtained by Dr. Thudichum show that in it carbon is to nitrogen always as 5 to 1, and, therefore, the assertions of persons who have not made a single analysis are mere frivolities.

The bearing of the alkaloids in urine, of which urochrome is the most conspicuous and important, is of the greatest clinical

importance *in gout*. Of urochrome, or its four decomposition products, no trace occurs in the animal economy inside the kidneys; it appears first in the urine; it is never obtained artificially from higher products by chemolysis; its products are never obtained from albuminous substances by chemolysis. All evidence goes to show that urochrome is a *synthetical product of the protoplasm of the kidney-cells*. To get into the circulation, as in *uræmia* it does, it is necessary for it to be formed in the kidneys and to regurgitate, owing to obstruction, just as biliary matters do in jaundice. Of gout, the presence of uric acid as urates in the blood was only one feature, also a result of regurgitation of kidney-products; the disturbance of the formation of alkaloids was another. It was known as a broad feature of medical observation that while the urine of a person liable to gout was deep amber (which might be taken as an indication of the proper formation of all alkaloids), he would have no accumulation of uric acid in his blood, and, consequently, no deposits of urate of lime, and no inflammations. If coloured urine went along with gout, it was small in quantity, and made copious deposits of mixed urates, owing to the relative diminution of the alkaloids.

Most of the alkaloids have great reducing power, and red urine, *e.g.*, affects copper salts like sugar, other metallic oxydes much more strongly; while being thus oxydizable the alkaloids (*creatinine* and *urotheobromine* excepted) are also reducible, urochrome so much so as to become colourless with zinc and acid. These properties give the opportunities for many pathological reactions, of which the effect is felt in the blood by accumulation. Uræmia is more dangerous by the accumulation of extractive acids than by that of diffusible urea.

The paper was illustrated by specimens.

Mr. F. Rowland Humphreys read a paper on "*Permanganate of Potash as a Urinary Test*"; an indication of the presence of a powerful reducing body in the urine, not previously observed.

The author had for some eighteen months been investigating the cause of the instantaneous decoloration of a solution of permanganate when urine was added rapidly to it. After testing, clinically or chemically, all the known organic or

inorganic constituents normally present in appreciable quantities, including the precipitation of the alkaloids by phosphomolybdic acid, he came to the conclusion that a phenol was the only one which could produce the effect in question. However, neither clinical observation, nor distillation with bicarbonate of soda or with sulphuric acid, confirmed this view, as the conjugated sulphates did not correspond in diurnal variation with the reducing body; while the two reagents gave opposite results, the one not affecting, the other preventing the reaction, whilst both liberated the phenol. It was suggested that a phenol might be present in such a form as to admit of ready oxidation. It was known that phenol was made in the intestine, and Baumann had proved that it was also formed during the decomposition of albumen. The reducing body corresponded, in its diurnal variations, with urea and the uncombined sulphates; it was, therefore, certain that like these compounds it was a product of the metabolism of the tissues. From the uniformity of the test there was reason to believe that only one body was producing the reduction. If the reducing body was a phenol compound it ought, when retained, to produce cerebral and nerve effects corresponding to its composition, and it is remarkable that the forms, degrees and symptoms of carbolic acid poisoning bear the very closest resemblance to those of uræmia, and that several of the most useful drugs in the latter condition are antidotes in the former. Practically it was found that when the excretion of the reducing body was much or constantly diminished, or was much increased, symptoms of uræmia were generally present. It was suggested that the failure of the liver to form urea would probably be accompanied by failure of the same organ—according to Bunge it has this function—to conjugate, and so render harmless the phenol which is normally formed in the intestine. The ammonia of the unformed urea would assist the action of the phenol by precipitating it from its solution in the blood, so that a comparatively small amount of the acid might do very serious damage to the tissues. In practice, 1 cub. cent. of a $\frac{1}{3}$ per cent. solution of permanganate was diluted with four or five times its bulk of water in a test-tube, and the urine rapidly run in from a pipette or measuring glass, marked in c.c. From several

consecutive days' observations, on two occasions, it was found that the normal amount of the reducing body excreted in the 24 hours varied between 17 and 34 grs., reckoned as permanganate; being rather higher in the spring than in the autumn; being highest in the first urine of the morning, and in that passed four or five hours after a meal; least just after a meal, and late at night. It was at its maximum in fine warm weather, much less in mild muggy weather, and least during severe cold. It varied in a like manner with the urea, and with unconjugated sulphates; it appeared to absorb oxygen during acid fermentation, regaining its reducing power when the alkaline fermentation set in; this, however, was not a constant effect. It was much increased in all the febrile cases examined, except when marked cerebral symptoms were present, being then diminished. It was also increased in chronic alcoholism, in two cases of anæmia, and in one of syphilis taking full doses of perchloride, diminishing greatly when hydrarg. cum cretâ was substituted for the latter. During a sick headache it was much diminished, but increased and became excessive for a short time as the headache passed off. In a case of scarlatina, where the urine was daily examined for some weeks, the reducing body declined steadily in amount, albuminuria set in, and as this passed off and the patient improved, the amount increased. In acute nephritis, the quantity ascertained (by very frequent examinations in one case), was at first much increased, then equally diminished, severe hæmorrhage and uræmic symptoms supervening. The recovery of the patient was heralded and accompanied by a steady increase. In two cases of "mixed nephritis" marked excess alternated with the reverse; these cases were in a state of chronic uræmia. In four cases where high pulse tension suggested granular kidney, the amount was either much increased or greatly diminished. To sum up, the author claimed to have discovered the presence of a powerful reducing body, whose daily history showed it to be a product of the metabolism of the tissues, whose reactions corresponded to a certain extent with those of a phenol, and whose suppression or whose excess corresponded closely with febrile cerebral symptoms, and with those of uræmia.

The President said the subject was one of great practical interest. Dr. Thudichum had placed very complicated facts before us in a lucid way.

Dr. W. Hunter had been much interested in Dr. Thudichum's paper, as he had long been acquainted with his work. He regarded Dr. Thudichum as one of the pioneers in the subject of urinary pigments. He could not agree with him that his work had been left entirely unnoticed by physiologists. On the contrary, reference to it was to be found in most treatises on the subject. His views, however, as to the nature of the urinary pigments had not gained general acceptance. He thought there was a reason for this. Dr. Thudichum regarded the pigment of the urine as something *per se*, having no relationship with the other pigments of the body—notably with hæmoglobin. This was the view held up to 1870, or thereabouts. His "urochrome" could not be regarded as a simple pigment, the methods by which it was obtained being such as sufficed to separate other pigments; and he had not sufficiently shewn that the other pigments obtainable from "urochrome"—viz., "uropittin" and "uromelanin" were not also artificial products. Since Dr. Thudichum's original observations were made, the pigments of the urine had been studied more in their relationship to those of the bile and the blood, from which, in the speaker's view, they were undoubtedly derived. This relationship was illustrated by the close similarity, if not identity, of bilirubin, a pigment of the bile, with hæmatoidin, the pigment so frequently found around old blood extravasations. The green discolouration so frequently seen under such circumstances, was due to the presence of biliverdin. Furthermore, a pigment apparently identical with biliverdin was found in the placenta of the bitch. These facts clearly shewed that pigments, identical with, or allied to, the pigments of the bile could be formed by other cells than those of the liver; and lent support to the view that by similar agencies they might become further modified into those of the urine. One of these—urobilin—had attracted considerable attention since Jaffé first described it as being found in certain urines—chiefly those of fever. MacMunn had since then given the name to a pigment present in normal urine, and had drawn a distinction between this "normal urobilin" and another variety, "pathological urobilin," to be met with in certain conditions of disease. Of the presence of these bodies in the urine there could be no doubt; and it was interesting as pointing to their relationship with the pigments of the bile, that bodies closely identical were to be found in both the bile and the colouring matter of the fæces. He by no means implied that urobilin was the only pigment in the urine. On the contrary, he believed there were others, of whose nature we were ignorant. He thought, however, that analogy with the case of urobilin pointed strongly to the conclusion that these also were derived from the pigments of the bile and blood; and it was in this respect that he was inclined to dissent most strongly from the views expressed in the paper just read. As regards the methods adopted in separating the pigments of the urine, he thought that the use of such powerful reducing agents as phosphomolybdic acid and baryta water, as employed by Dr. Thudichum, compared unfavourably with the more delicate method of spectroscopic examination now generally employed.

Dr. Lewis Jones had appreciated Dr. Thudichum's paper. The chief point was, Is the colouring matter due to urochrome or to urobilin? In his own observations he had found in the urine of febrile patients, a spectroscopic band at F, the junction of the green and blue; this he ascribed to urobilin, Dr. Thudichum would say uropittin. From normal urine one can precipitate with lead acetate a yellow body which gives no band at that spot, but in febrile urine the band appears. One can separate the band-

giving body from the rest of the colouring matter; it is not yellow but red, and it is not, in his opinion, the body which gives the colour to normal urine. The band was faintly visible in a deep layer of normal urine, but markedly in a thin layer of febrile urine. The colour of normal urine was due to a yellow body, which gives no characteristic absorption band (urochrome). Urobilin is red; it can be extracted by chloroform; urochrome is not. He would ask Dr. Thudichum, was urobilin the same as uropittin? Had urochrome an absorption band?

Dr. Thudichum, in reply,. said that the errors of his opponents were legion. Thus the identity of hæmatoidin with bilirubin was impossible on the basis of Virchow's description of hæmatoidin, compared point for point; it was an error to call the green substance in the placenta of the bitch biliverdin, seeing that it was soluble in water, which biliverdin is not, besides other reasons. The spectroscope was good for pioneering, but a source of fallacy if not controlled by chemistry. Spectroscopic studies on dirty solutions in test-tubes could not be called chemistry, and "urobilin" was such a solution, at which a chemist would shudder.

A Meeting was held on Wednesday, March 11th, 1891. Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. Bedford Pierce, Dr. Rivers, Dr. J. Galloway, and Mr. Curwen were present as visitors.

Dr. T. Glover Lyon was elected an Ordinary Fellow.

Dr. Hughlings Jackson and **Dr. Rivers** shewed a *Phonogram*, recording the *abnormal talking* of a patient, the subject of *Disseminated Sclerosis*. The phonogram was exhibited by Mr. Cole, of the Edison United Phonograph Co. The patient, whose talking was reproduced, was a man, aged 26, who in the course of about five months had been affected in an extreme degree with the symptoms of Disseminated Sclerosis—viz., oscillation of the head, nystagmus, coarse jerking of the arms and legs on voluntary movement, increased knee-jerks and ankle clonus, as well as a typical high-strained jerking and syllabic utterance, which was very well reproduced by the phonograph—the first verse of "Old Mother Hubbard" being rendered by the instrument.

At the instance of the **President,** the thanks of the Meeting were accorded to Drs. Jackson and Rivers for the exhibition.

The President brought forward a microscopical specimen of "*Tumour of the Brain.*" A man, aged 48, died with grave cerebral disease, supposed from some of its features to be

syphilitic. At the autopsy was found a tumour of sarcomatous structure, the size of a nut, situated between the medulla and cerebellum, apparently arising from the floor of the fourth ventricle. From the situation it might have been thought an endothelioma.

In reply to **Dr. Jackson,** it was stated that double optic neuritis was present, and **Mr. Curwen,** who had been clinical clerk to the case, added that the knee-jerks were exaggerated, and that the growth was not enclosed by any very distinct capsule.

Dr. Turner referred to a specimen exhibited by him at the Pathological Society, which proved to be a very vascular sarcoma, into which extravasation of blood had occurred; the structure was almost nævoid.

Dr. F. J. Smith observed that the tumour was of a mixed sarcomatous structure; the fibrous parts had perhaps checked the enlargement of the more cellular portions.

Dr. Jackson had never seen a tumour in that situation before; it was of great interest.

Dr. J. Langton Hewer shewed a specimen of "*Chronic Osteomyelitis of the Tibia.*" It was removed from a man, æt. 27, with the following history. For the last 17 years he has complained of pain in his right leg, which would at times swell up and get hot and tender; after resting a day or two the swelling would go down and the leg feel pretty well again. At the age of 20, *i.e.*, seven years ago, the pain became so continuous that he consented to an operation. An incision was made from just below the tubercle of the tibia to the junction of the middle and lower two-thirds of that bone, the soft parts and periosteum were stripped off and the wall of the bone chipped away with gouge and mallet. As soon as the medullary cavity was reached, it was found full of broken-down puriform material, which was thoroughly removed, and the large hole left in the bone was allowed to fill with blood clot, all being carried out with strict antiseptic precautions. All went well, the clot did not break down, and the patient was up and about in three months. The scar of the operation has always kept red and tender, and the leg has been very susceptible to changes in the weather, and at length the pain returned to such an extent that it was evident that something further must be done. So seven years after the first operation the old scar was opened up, the bone trephined in three places, and the intervening bridges sawn through. The outer bone was much sclerosed and its interior was found filled with puriform débris.

The cavity was thoroughly cleared out with gouges to within half an inch of the knee-joint, and the large hole stuffed with long strips of plain dry lint. No antiseptic precautions were taken. There was free suppuration, but all went well and the patient was up and about in three months. The scar is now pale and able to bear direct pressure without pain in a way that it never could after the first operation. There was no history of syphilis. The first operation was quite as thorough as the second, although the second was a success and the first a failure.

Was it always wise to operate in an aseptic way and thus to exclude inflammatory reaction?

Was the tissue resulting from the organization of a blood clot more likely to break down than tissue resulting after free suppuration and healing by granulation?

The President said the point was interesting. Inflammatory action was no doubt good and conservative, but the difficulty was to control it so as to keep it within safe and beneficial bounds.

Mr. J. Poland thought the case of interest from its rarity, and from the comparison of methods of operating. Perhaps the caseous material which was spoken of as filling the interior of the medullary canal of the bone was of syphilitic nature, and it may not have been fully removed at the first operation, but on the second occasion the free suppuration and discharge got rid of it. Chronic osteo-myelitis was not a common condition; it was most often seen in an amputation stump, the sprouting granulations indicating endosteal inflammation. He had seen two cases of necrosis following chronic endostitis in metatarsal bones; nearly the whole length of the inner compact layer of the bone was removed in each case, and the inflammation had clearly originated in the medullary membrane.

Dr. F. J. Smith was reminded by the view taken of this case of the experiments of inducing erysipelas to produce destructive effects on malignant tumours. The next stage in order to this was the discovery of phagocytes, and of the strife they wage with foreign matters. The next would surely be that physiologists would describe the life-histories of micro-organisms, and decide the uses of each, so that we might give our patients doses of micro-organisms to combat particular disorders, much as we now give them soda and gentian. Were antiseptics always good? For example, in an empyema, were not micro-organisms sometimes helpful?

Dr. Newton Pitt asked whether the second operation might not have been more thorough, exposing and removing the bone more completely than the first?

Dr. Hewer, in reply, said that the first operation, performed as it was by a leading surgeon, was quite as thorough as the second; the whole cavity was opened out and flushed. Syphilis could be excluded.

Dr. F. Charlewood Turner shewed two specimens of "*Ulcerative Aortitis*," extensive in character, and in very atheromatous and calcareous vessels. The first was from a woman, aged 60, who was admitted into the London Hospital with dry gangrene of

one toe in each foot, and of the right little finger-tip, with duskiness of the ears and nose. On her death a fortnight later granular kidneys and hypertrophied heart were found Besides the extensive ulcers of the aorta, with elevated, thickened, and rather everted edges, there was a fusiform aneurysmal dilation of the internal iliac artery, of the size of a filbert, where the endarterium was similarly ulcerated. The cavity had been filled with a parti-coloured clot. A microscopical section from one of the ulcerated areas was also shown, displaying thickening of the endarterium at the borders of the ulcers, but no mycotic growth. The second specimen was from a female, aged 75, who was admitted for compound fracture of the skull with laceration of the brain, and fractured ribs and clavicle, and died the next day. She had fibro-calcareous degeneration of the aortic valves with stenosis, and granular kidneys without contraction. Dr. Turner shewed also a drawing of an aorta with similar lesions from a specimen exhibited at the Pathological Society in 1886, and figured in vol. 37 of the Transactions. Also a drawing of a microscopical section from that case, shewing growth of micrococci in the deeper layers of the thickened inner coat of the vessel. This was obtained from a woman, aged 62, who died from valvular disease of the heart.

He shewed also another drawing of an otherwise healthy aorta, having a finger-like projecting fibrinous mass adherent to the inner surface of the arch, obtained from the body of a female, who died after a burn and feverish symptoms. In this case the septic nature of the lesion was proved by the presence of a cluster of small eroded spots, roughened with fibrinous deposit, on the opposite side of the vessel.

He expressed the opinion that in the specimens exhibited the ulcerative lesion was of a mycotic origin, although the sections did not show evidence of their presence. Some of the sections had been prepared by Gramm's method.

The President referred to Dr. Turner's special studies on this subject. He asked as to the cause of gangrene in the case alluded to, and as to its cause.

Mr. G. J. B. Stevens assumed that this was entirely a disease of senility; but some equally interesting conditions occurred in early life. He referred to a case which was under his own care many years ago, in which ulceration occurred between the aorta and pulmonary artery, close to the semilunar valves. The patient was a child, aged 8, who died of convulsions.

Dr. J. Galloway said that the first case raised the question of the infection of old endarterial ulcers by emboli from infective processes such as the gangrene named. One would expect that the right side of the heart would be more often affected, and it was so sometimes. A case was lately under his observation at the Great Northern Hospital, in which ulcerative endocarditis in the right ventricle attended on osteo-myelitis of the tibia in a child. Did Dr. Turner think that infection of the right side was less frequent in elderly persons, because of the endarterial ulcers then often present on the left?

Dr. Newton Pitt observed that from the exceedingly atheromatous aorta it might be queried whether ulcerative processes did not go on without a septic condition. In a case he had seen of such an aorta with somewhat active atheromatous changes going on, and discharging their material, there was yet no septic condition. He had looked in vain for a typical case of septic aortic ulceration. He had met with two cases of blood-clots attached to the aortic wall without apparent cause; some local inflammatory condition seemed to have occurred.

Dr. Turner, in reply, said the gangrene was dry; the patient had been admitted with cyanosis of various parts, so that there seemed a wide failure of circulation. In his cases of younger persons the aorta was quite healthy. He had seen right-sided endocarditis, but could not be sure that it was septic.

Dr. Newton Pitt shewed two specimens of "*Hydronephrosis.*" The first was the left kidney of a woman, aged 36, who died in a condition of status epilepticus, due to chronic alcoholism. The hydronephrotic left kidney was not suspected until the inspection. The opposite kidney and arteries were normal. On examination, it was found that there were two renal arteries, coming off from the aorta, about $2\frac{1}{2}$ inches apart; the renal veins left the pelvis of the kidney corresponding to the two arteries, but they united into a main vessel about midway between them, so that the renal vein was of a Y shape. The pelvis of the kidney when distended produced a kinking in the ureter as it passed down over the vessels, and it was the vein, rather than the artery, that was the immediate cause of the bending, and, therefore, of the obstruction which led to the over-distension. An abnormal position of the vessels leading to a hydronephrosis had occurred among the post-mortems within the last few years at least four times, and the separation of the vein from the aberrant artery appeared to be the rule. When hydronephrosis is due to this abnormality, it can be readily understood that a change of position or massage of the abdomen might readily lead to emptying of the sac. It is also noteworthy that these cases have been found among patients of adult age, and that it probably requires some slight temporary

distension before the pelvis will press against the vessel sufficiently to lead to any interference with the lumen of the ureter.

This abnormality of the vessels will probably be found to be the explanation of a considerable number of cases of hydronephrosis.

The second specimen was the left kidney of a child, 7 months old, and was found at the inspection to be due to a stricture at the renal origin of the ureter, for which no cause other than some congenital imperfection could be suggested. There were no evidences of a calculus or of any injury; the condition was unsuspected during life. A valvular condition of the mucous membrane at this spot is not uncommon.

Attention was also drawn to the fact that sometimes with stricture of the urethra only one of the ureters and the pelvis of the corresponding kidney are dilated, while on the opposite side they remain normal. It is suggested that the irregular distribution of the muscular fibres round the orifice of the ureter into the bladder may be the cause, and that these fibres when hypertrophied, lead to protection of the ureter from pressure on one side, but not on both.

The President asked if the arterial condition was bilateral.

Mr. F. R. Humphreys referred to a case of congenital stricture of the urethra in a small boy, coming under his care in uræmic coma; on one side there was a hydro-nephrotic kidney, on the other a small granular kidney.

Mr. J. Hutchinson, junr., asked if the kidneys were in either case floating to any extent.

Dr. Pitt could not answer this question.

Mr. J. Hutchinson, junr., shewed a small pedunculated "*Buccal Fibro-lipoma,*" from the inside of the cheek of an infant. Such a growth was unusual in that situation. He suggested that it was really a protrusion of a portion of the pad of fat—Cloquet's pad, or the sucking pad—which lies behind the buccinator muscle, between some of the fibres of which the mass would seem to have extruded.

Mr. Hutchinson, junr., also exhibited a "*Sarcomatous Tumour of the Lower Jaw,*" removed from a man of 35. It was a soft periosteal sarcoma, and there were curious polypoid projections along the mucous membrane, of the same structure;

these had caused some little difficulty in the diagnosis. The disease has recurred after six months' interval, and is now growing rapidly. Another case was alluded to, in which sarcoma affected a jaw which had been the subject of phosphorus necrosis.

Mr. Hutchinson, junr., also shewed a microscopical section, displaying the structure of an ordinary "*Polypus of the Rectum*," such as is common in early life, and illustrating the close similarity in structure to adenoid carcinoma.

After the meeting, Mr. F. Cole kindly gave some interesting illustrations of the Phonograph, and explained its mechanism.

A Meeting was held on Wednesday, 25th March, 1891. Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. Bedford Pierce was proposed for election as an Ordinary Fellow.

Dr. Patrick Manson, Dr. James Galloway, and Mr. Hope Grant were elected as Ordinary Fellows.

Dr. S. H. Appleford shewed a case of "*Cervical Tumour*" of rapid growth in a man, aged 33 years, a housekeeper. He had never had syphilis. An abdominal swelling, which previously appeared, had given way under iodide of potassium. A hard painful mass then developed in the neck, close to the clavicle, and beneath the lower half of the right sterno-mastoid muscle, now about three inches in either diameter. Some very hard small glands were to be felt along the hinder border of the mass, and others in the axilla. The voice was hoarse. The iodide had relieved pain but had not checked the enlargement. Arsenic had been given up to ♏ x. dose of the liquor.

The President thought the diagnosis lay between lymphadenoma and syphilitic disease of the glands, and he inclined to the former. He had seen a case in which the latter condition simulated Hodgkin's disease, but under the influence of potassium iodide became perfectly well. Another had subsided under that drug and arsenic combined. Syphilis had been called by Hutchinson the great imitator. The test between the two conditions was the absence of anæmia, as proved by the hæmacytometer. The laryngeal condition was of importance. Was the hoarseness due to pressure on the recurrent nerve? Calcium chloride might be of use.

Dr. Hingston Fox shewed a case of "*Recovery from Hydrocephalus*." A boy (now aged 6¾ years) was seen in April, 1885, then aged nine months, with a history of inflammation of the

lungs at three months, on recovery from which the head was found to be enlarging, and continued to do so for four months. There was no tubercular or syphilitic history. The child had been suckled. There were convulsive movements in sleep, but never convulsions nor vomiting; he cried much, but not characteristically. The head was large, cleft by a wide median fissure, extending from two inches above the root of the nose, almost to the nape of the neck, the parietal bones and cleft halves of the frontal and occipital bones presenting free rounded edges (something like the petals of a flower). There were four teeth; the limbs showed slight rickets. The movements of the eyes were jerky, pupils acted weakly to light; the mother thought he was blind, but he shuts his eyes in sunlight; he knew her and could speak a few words. He was brought again lately. The head was now completely ossified, rather broad in shape, bulky, $23\frac{5}{8}$ inches in circumference. The eye movements were often unparallel, tending to divergence; there was slight horizontal nystagmus. He had never walked, the legs were weak and thin, slightly contracted in flexion at the knee, so that they could not be quite extended. Intelligence was defective, apparently baby-like; he talked a little, could tell his name, could not count correctly beyond two, would laugh at very little or at nothing, was very frightened of music, was clean in his habits, but could not feed himself. The case could only in a qualified way be designated one of recovery. No doubt there were one or two pints of fluid still in the cranium. In the well known instance of T. Cardinal life was prolonged to over 20 years with seven or eight pints of fluid. The circumference of the head in the present case, though not much more than three inches above the normal, indicated an increase of bulk, nearly as two to three. The favourable result might perhaps have been forecast six years ago on the following grounds:— absence of convulsions or vomiting, fairly good bone-formation, intelligence not much impaired, good family history, and perhaps the origin in immediate connection with a specific disorder.

Mr. Tatham had a similar case some years ago, with a head probably larger. The boy recovered well, and his intelligence developed; he learned algebra, &c. He subsequently obtained employment with a waggon, but died suddenly at 16 years. A clot was found in the heart, and probably at least a quart of water in the cranium, the brain lying at one side, flattened.

Dr. Wightwick adverted to the mental instruction needed in such a case. As Medical Officer to a Workhouse he had met with many of these cases, and found that they deteriorated if left to themselves.

The President said there was not indeed a *restitutio ad integram*, but an arrest of disease, a virtual cure. When the brain was found flattened, as in Mr. Tatham's case, it might be accounted "external hydrocephalus," but there was strictly no such condition. Moxon and others had shown that what really took place was the rupture of a thin layer of brain-substance, and escape of the fluid. The connection of the present case with pneumonia was of interest. Probably meningitis of the base first occurred; there was obstruction of the communication with the canal of the cord, damming up the effused fluid, and so hydrocephalus. Some cases of cervical opisthotonos went on to a like result. Where recovery occurred, blindness or deafness, from neuritis, was not uncommon.

Dr. Galabin read a paper on "*Modern Methods of Performing Cæsarean Section.*" These operations were comparatively few in this country. On the Continent several causes rendered them more frequent; Romish Church scruples as to the value of the child's life influenced in its favour, contracted pelves and brachycephalic heads were more common, and mollities ossium was less rare. In America the conditions were still less favourable to the operation than in England. Statistics must still then be based upon the experience abroad; Dr. R. P. Harris, of Philadelphia, had compiled them with much care. No doubt the field of the operation had been widened at the expense of craniotomy. The latter operation appeared to be attended by a considerable mortality, 16·6 per cent. of mothers dying during ten years in Guy's Hospital practice. He attributed this largely to the adverse effect of previous attempts to deliver by forceps or version. The first important modification in the operation was made by Porro in 1876, the whole uterus and ovaries being removed; this method was chiefly practised in Italy; its mortality was 56 per cent.; in the old Cæsarean section it stood probably at nearly 90. In 1882, Sänger's method was invented; his object was to shut off the peritoneal and uterine cavities from one another by careful suturing. Success depended largely on the operation being a primary choice, without previous efforts by other means. The earlier operators waited for labour to commence, or induced labour, but the fear that the uterus would not otherwise contract well was groundless. It was a more serious objection that the os might not be freely open unless labour had begun, and an American case illustrated this, much difficulty being

caused by the closed os, and suppuration taking place in the pent-up blood-clot above it. He would operate in a multipara without waiting for labour, but would hesitate to do so in a primipara. To avoid the entrance of the liquor amnii, which consists in part of fœtal urine, into the peritoneum, it was probably best to puncture the membranes before operating. The use of the elastic ligature around the neck of the uterus was advantageous, to prevent bleeding; some thought it paralysed the uterus. No notable asphyxia of the fœtus had been thereby caused in his experience. Leopold and others preferred to have the vessels, &c., at the neck of the uterus compressed by an assistant instead of the ligature. In the suturing the main point was to turn in the edges of peritoneum round the margin of the uterine wound, and this did not require much separation of the membrane. Numerous deep sutures were applied through the muscular substance of the uterus; chromicised gut or even silk were now used for these, but he still thought the silver wire more reliable. Superficial sutures were then added, piercing the peritoneum twice on each side, so as approximate flat edges of this membrane. A specimen was shewn: the uterus of a woman on whom Sänger's operation had been performed, and who died on the ninth day from accidental opening of the abdominal wound. The case was not very favourable—prolonged labour with inertia; the uterus turned inside out when the fœtus was removed. The specimen shewed the uterine wound well healed, the wire sutures visible *in situ*. Some used a continuous suture; but this would become loose when the wall contracted. Cameron, of Glasgow, had published ten consecutive cases with only one death, using no superficial sutures at all, thus shortening the operation. In fatal cases the uterus had generally been found adherent to the abdominal wall; this was not altogether undesirable, and had saved the lives of some patients. Sterilisation of the patient had been latterly advocated; you may remove the ovaries, or tie the Fallopian tubes near their outer ends. The notes of a successful case of Cæsarean section were read. A woman, aged 32 years, none of whose children had survived; she had a generally contracted and markedly flattened pelvis—internal conjugate diameter

$2\frac{3}{4}$ inches. Cæsarean section was advised and performed under ether. The uterine incision was 6 inches long; the child was extracted by the feet, alive and strong. Chromicised sutures were put in before the placenta was removed. The uterus was very inert, and hæmorrhage rather free; the patient, however, did well, despite a suppurating sinus which formed at one part of the wound.

The use of Delta metal for the serre-nœuds and the pins and wires for the pedicle in Porro's operation was noticed, and the instruments shewn. The mortality of Sänger's operation to the end of 1889 had been 50 deaths in 212 cases, or 23·5 per cent. That of Porro's to the same period had been 150 deaths in 271, or about 58 per cent. Porro's operation appeared to be successful in Austria, Sänger's in Germany. After long duration of labour and attempts to deliver through the pelvis, Porro's might probably be the better method, and perhaps it was simpler to perform for those who had little experience.

Dr. Herman read "*Notes of a Case of Cæsarean Section.*" H. S., aged 37 years, was admitted into the London Hospital on March 2nd, 1891, said to have had labour pains for 18 hours. She was thin and cachectic. The uterus reached to the ensiform cartilage. Between the pains a hard mass could be felt filling the left iliac fossa, and in front of this a fluctuating swelling. The perineum and labia were œdematous. On vaginal examination the pelvis was found so filled with the hard elastic tumour bulging from its left wall that the fingers could not be got between the right pelvic wall and the greatest diameter of the tumour. Catheterism was impossible. Cæsarean section was performed under ether. On opening the abdomen the fluctuating tumour was found to be the full bladder. On incising the uterus, the placenta had to be cut through, and the child was extracted by the foot, the placenta following, partly by digital separation and partly by compression. The uterus was not turned out of the abdomen before it was opened, but the abdominal walls were pressed close to it by an assistant, and after the child had been removed, the uterus was expressed from the abdomen, and the lips of the abdominal incision held close together behind it whilst the sutures were being put in. The bladder was relieved by catheterism, and

ergotin given hypodermically. The uterus was then swabbed out with sublimate solution and sutured, first with interrupted silk sutures passing through the peritoneum $\frac{1}{3}$ inch from the edge of the incision, and not including the decidua, and then with a continuous catgut suture entered and brought out on each side through the peritoneum, so as to bring the peritoneal surfaces close together throughout the whole length of the wound. The abdominal wound was closed in the usual way. The child was living and survived. The pulse was 140 at first, varying between this and 120 during the three following days, temperature reaching 100·5° on March 5th, when she died; severe paroxysmal abdominal pain, with vomiting and flatulent distension having occurred. At an incomplete necropsy, made by Dr. Turner, no peritonitis was found. The uterine wound was perfectly healed, the sutures being buried and covered with smooth shining lymph. The mass in the iliac fossa and pelvic cavity was an osteo-sarcomatous growth, containing blood and pus in its interior.

Dr. Herman remarked that Cæsarean section could never supplant craniotomy, the mortality from which ought not to be higher than that from natural labour. One could measure the size of the pelvis, and should not then increase the risk by trying other methods. German statistics shewed that the mortality after craniotomy in cases of great pelvic contraction was thus actually less than in cases of lesser contraction; because in the latter other means had been tried first. Turning out the uterus before extracting the child added to the risk of Cæsarean section; the abdominal walls could be held by assistants. The elastic ligature was likely to interfere with the contractile power of the uterus, as had been shewn by experiments in animals; the cornu of the uterus to which an elastic ligature had been applied bled more than the other which had been free. It lessened the hæmorrhage no doubt for the time. The peritoneum united well—better than muscular tissue—and was the strongest part of the uterine wall, as proved by the sound. Cases had been operated on, and successfully, with all kinds of sutures. He thought the cause of death in his own case was from exposure of the bowel, setting up vomiting and flatulent distension. This was the

chief drawback to Cæsarean section, as compared with Porro's operation, for careful suture of the uterus was essential, and took a long time. This cause of danger was inseparable from all abdominal operations, and hence the mortality could never be brought down to that of craniotomy.

Dr. Horrocks preferred the Cæsarean section to Porro's operation, as being much less mutilating and involving less shock. In certain cases, as rupture of the uterus, or cancer, Porro's might be preferable. In a case operated on a year ago, he found it very difficult to slip on the elastic ligature before opening the uterus; he found he had to extend his abdominal incision far up in order to get the loop over the fundus. In another case, he would not turn out the uterus, but would follow Dr. Cameron's plan, not putting sutures into the peritoneum, excepting about two or three; this shortened the operation by one-half, and time was of great importance. He would trust to the fingers of assistants to arrest hæmorrhage. In his own case he tied the Fallopian tubes with kangaroo tendon, following Dr. Champneys; no pregnancy had followed, the husband however ran away eight months after the operation. In a case in which he tied the Fallopian tubes with chromicised gut, where death followed from peritonitis from the patient's imprudence, he examined the tubes, and found the lumen was well occluded by the ligature (he now shewed the specimen).

Dr. Galabin, in reply, did not think it was always possible to tell beforehand whether the child could be extracted *per vias naturales.* Was it most important to unite the peritoneum by the system of sutures, or to shorten the operation, as Cameron did? At present he was inclined to defer to the German experience in the former direction. With a plentiful supply of needles, &c., much time might be saved, and the operation had been completed in half an hour.

A Meeting was held on Wednesday, April 8th, 1891. Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. Patrick Manson and Mr. Hope Grant were admitted as Ordinary Fellows.

Dr. Francis Hawkins, Dr. Colcott Fox, and Dr. A. H. Robinson were present as visitors.

Dr. Geo. A. Carpenter shewed a case of "*Ringed Eruption*" in an infant. Charles L., aged 16 months, had suffered from snuffles and a rash on the buttocks at 6 weeks. There were a few spots on the buttocks and right arm at 11 months; those on the arm died away, but those on the buttocks became ringed and enlarged continually until three weeks ago, when Hyd. cum Cretâ was commenced, and the rash had rapidly faded since. He now presented a number of rings and segments of

rings, from $1\frac{1}{8}$ to 2 inches in diameter, of a raw-ham colour, and with a raised edge, $\frac{1}{4}$ inch broad, somewhat scaly and striated. The enclosed surface was quite healthy looking; no scarring. The trichophyton fungus had been well searched for in vain. There were no condylomata or other signs of congenital syphilis.

Dr. Colcott Fox said the resemblance to ringworm was very great, differing, however, in the broad margin, and its peculiar retiform appearance. The eruption corresponded to cases occasionally seen in adults, where the eruption of acquired syphilis assumed a ringed form, and the same was seen in rare instances in congenital syphilis.

The President doubted the syphilitic nature, the history was indefinite, and there were no confirmatory points in the present condition. That the fungus was not found was no proof that it was not a case of tinea corporis. He had a case of tinea circinata then under care, in which the fungus could not be found. It was interesting to observe the figure of eight formed by two circles meeting; they do not, as Hebra says, run into each other, but form a true-lover's knot.

Dr. Fred. J. Smith shewed a case of "*Fibrous Growths on the Hands*" in a young woman, aged 20 years. This case was shown to the Society five months ago (see Transactions, 1890-91, p. 105). The nodules were now more distinct and isolated, with less of the general thickening which had existed, and less erythema around them. He had excised one of the masses, and found it purely fibrous tissue; there was nothing at any rate which would stain like nuclei. The general health was excellent, no heart disorder; she had had an arthritic attack. She was taking arsenic and pot. iodid., and the nodules appeared to be lessening, and less painful. Dr. Smith was inclined to suggest excision for those nodules which were most in the way.

Dr. Colcott Fox had never seen a case quite like this one, but Dr. Bury, of Manchester, had published a case in the "Illustrated Medical News" in 1889, which appeared exactly similar; the boy in question had intermittent albuminuria. The tendency in him was for all the nodules to subside and die away, leaving pigmentary stains. He would suppose it to be an indolent inflammatory eruption, very chronic, becoming fibromatous in structure in course of time. He thought chilblains and rheumatic nodules could be excluded, and could not give any more definite name to the affection.

The President inclined from the first to the view that the case was one of rheumatic nodules; the latter vary much in size and appearance, and the attack of arthritis rendered it more likely; he had seen cases where the nodules were large. The fibrous structure confirmed this view, and the peculiarity in their site and character might be explained by what Mr. Hutchinson called a tissue proclivity. As to treatment, he would pursue a policy of "masterly inactivity."

Dr. Fred. J. Smith also shewed a case of "*Congenital Heart Disease*" in a boy, aged 12 years. He had always been short of breath, and turned black in the face on the slightest exertion. No bruit was now to be heard, but the cyanosis of face and lips was most marked, and the finger ends were clubbed to an unusual degree. Dr. Smith remarked that the particular form of mal-development must for the present remain unsettled.

Dr. Francis Hawkins had the records of four cases of congenital disease, in which there were loud systolic murmurs in the pulmonary area. He thought in this case there was not stenosis of the pulmonary artery, but rather a communication between the two auricles.

Dr. G. A. Carpenter believed that the presence or absence of a murmur did not help much in the diagnosis. A child, aged nine years, with atresia of the pulmonary artery, had a variable systolic bruit, which disappeared within a few weeks of death. In the present case there was probably either stenosis or atresia of the pulmonary artery: he was not too old for atresia. He had found a patent septum ventriculorum where no murmur had existed.

Dr. Dundas Grant spoke of the impossibility of diagnosing the lesion in cases of cyanosis; in some no defect at all is found in the heart. In a new-born child with marked cyanosis and loud systolic murmur, he found an opening between the auricles.

Mr. Tatham had had a case long under his observation, a girl, who, at length, at the age of 16, died suddenly. Cyanosis was in her yet more marked than in this case; a communication between the two sides of the heart was found.

The President said that it appeared probable that the immediate starting point in all these cases was some disease of the pulmonary artery, rendering compensation needful. If this occurred before the septum ventriculorum was completed we had a patent septum; if later, patent foramen ovale or ductus arteriosus. Dr. Peacock shewed that the cause of cyanosis was obstruction in the right side of the heart, not the commingling of venous with arterial blood. He thought from the absence of murmur that the symptoms might in this case be due to patent foramen ovale.

Dr. G. A. Carpenter exhibited two cases, of "*Craniotabes* and *Parrot's Nodes*," in a brother and sister, aged 11 months and 2 years respectively. The boy had had snuffles since birth, and a rash on the buttocks, back and arms at 14 weeks. When first seen, six months ago, the liver edge was one finger's breadth below the costal margin, and the spleen nearly two fingers' breadth; the testicles and vasa deferentia were also somewhat large. The rash was made up of cutaneous gummata, some of them broken down and discharging, with papules. There was craniotabes in the parietal, occipital and squamo-temporal bones. These signs were now, after a mercurial course, scarcely demonstrable.

The girl had also had snuffles since birth, and was decidedly rachitic. The liver and spleen had shewn enlargement to a like extent, the spleen to fully two fingers' breadth. There was craniotabes at the posterior part of the parietal bones, and the anterior fontanelle admitted the tips of all the fingers. There were also well-marked Parrot's nodes on the cranium.

Dr. Carpenter referred to Drs. Lees' and Barlow's original observations of Craniotabes, published in the Pathological Society's Transactions ten years ago. In Keating's Cyclopædia the affection had been classed under Rickets by Drs. Berry and Barlow. But his own observations went to show that 74 per cent. of cases of craniotabes were syphilitic, and that nearly 50 per cent. of syphilitic infants had craniotabes. It must, however, be well searched for, not merely in the occipital region, for he had often found it in a parietal bone, once on the frontal eminence. He also considered Parrot's nodes to be a syphilitic manifestation, rather than rachitic, as classed in Keating's work, although it occurs in rachitic children. In both the cases shown the craniotabes had disappeared under mercury, although the signs of rachitis in the girl still remained.

Mr. J. Poland, in his experience as Registrar to the North-Eastern Hospital for Children, had found only a small percentage of syphilitic and rachitic children to have craniotabes.

Dr. Arthur T. Davies shewed a case of "*Paralysis Agitans*," a man, aged 49 years, who had been under observation five years, and was shown before the Society at an earlier stage (see Hunterian Society's Transactions, 1888-9, pp. 32, 42). There were at that time some doubtful points in the case which were now cleared up. The disease, which began in the right arm and leg, had now affected the limbs on the left side, and the head during the last two years had begun to shake. There was also marked rigidity of the affected limbs, speech was affected, and the general helplessness and aspect of hebetude were more marked. The tendency to fall back had increased—in fact, he fell on his back in January. When the left hand began to shake, one year ago, he noticed, first of all, what he called a "twittering" of the hand, when going to pick up anything. The "cigarette movements" were now characteristic. Much pain in the back had been complained of lately. Dr. Davies

remarked on the character of the tremor in this disease. In disseminated sclerosis the oscillations were very greatly increased in amplitude by voluntary movements, and ceased when the limbs were at rest and supported. Whilst in paralysis agitans the oscillations could in the early stage be controlled by the will, and were less extensive, more regular, rhythmical and slow; in the later stage, they were increased by voluntary movements.

Dr. A. H. Robinson shewed a case of "*Multiple Lipomata.*" A man, aged 33 years, presented numerous small soft prominent masses scattered over the entire trunk and limbs; they had existed ten years. His father had some similar tumours.

Dr. A. H. Robinson also shewed a man, aged 71 years, with a large *Cervical Tumour*, impinging on the occiput, supposed to be a lipoma, and of 30 years' duration. There was an irritable condition of the upper fibres of the trapezius, almost amounting to spasmodic torticollis.

Mr. J. Poland recommended excision of the tumours in the first case, if they became large or inconvenient. As to the second, he would suggest that the mass was connected with an injury sustained six months ago. He thought there was a boggy condition of the deeper structures, and would advise exploration with a needle.

A Meeting was held on Wednesday, April 22nd, 1891. Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. James Galloway was admitted as an Ordinary Fellow.

Mr. Arthur Cheatle and Dr. Walter B. De Jersey were proposed, and Dr. Bedford Pierce was elected, as an Ordinary Fellow.

Dr. Arthur T. Davies shewed a case of "*Graves' Disease,*" a woman, aged 26 years, who had been under his observation for $3\frac{1}{2}$ years. She was originally frightened by burglars, also illused by her parents. Cough, with a feeling of something in the throat, palpitation, and prominence of eyes, came on gradually, with earthy anæmia and some fulness of the thyroid gland. Von Graefe's sign was present, pulse 140, the heart's apex beat in the sixth space, outside the nipple line. General marked pigmentation of the skin then appeared, such as to suggest Addison's disease, and in illustration of this, a portrait

from St. Bartholomew's Hospital Museum was now shown, labelled "Exophthalmic Goître with Addison's disease." Dr. Drummond's published cases of Graves' disease with pigmentation were also referred to. In course of time the pigmentation in the present case had very much faded, the eyes had become less prominent, the pulse was now only 80, and there was only slight fulness of the thyroid gland. The disease had thus become quiescent.

Mr. Denton Cardew said that there was much variety in the pigmentation in Graves' disease; it was abnormal in probably 70 per cent. of cases. He had often observed bronzed patches in portions of the surface liable to pressure, *e.g.*, by a garter; also vitiligo plaques on the extensor surfaces of the wrists, and the fronts and inner aspects of the thighs; he had seen one case of psoriasis which improved with the coexistent disease. Urticaria and alopecia areata were also found. He knew of no record of a necropsy in any of these bronzed cases; but unless a lesion of the suprarenal bodies were found, he would doubt the coexistence of Addison's disease in such cases. They improved under treatment.

Dr. Gilbert suggested that the bronzing of the skin was due to the same disorder of the nervous system as gave rise to the Graves' disease. He alluded to the case of a nervous lady with severe hysterical asthma and cough, and a dark bronzing of the skin, especially about the folds of the axillæ. She ultimately got well from the necessity of nursing one of her daughters.

Dr. Hingston Fox asked whether the apparent cure in Dr. Davies' case could be attributed to any treatment pursued.

Dr. A. T. Davies replied that digitalis and strophanthus had been used, but the recovery was mainly due to time.

Dr. Appleford shewed a case of "*Fixation of the Head and Thorax.*" W. M., aged 37 years, a private detective, born in Essex. One brother died of phthisis, else a good family history. Has been in the army and in the Metropolitan police force. Has had rheumatism, two chancres and gonorrhœa in 1873, without secondaries; no injuries but dog-bites. His hair rapidly became grey two years ago, and the chest became stiff from that time. One year ago he thinned rapidly, and suffered from cough, &c. Six months ago his head and neck became rigid and the right arm stiff. Since then he had had throbbing headaches and rheumatic pains. He is thin and old-looking, hair grey. The head can be turned slightly. There is no apparent expansion of the chest on deep inspiration. The right arm cannot be raised to a right angle with the trunk. No spinal tenderness, knee-jerks increased, ankle-clonus present. He sleeps ill, drinks moderately, formerly much spirits.

Mr. J. Poland would attribute the fixation to articular trouble—osteo-arthritic disease affecting the vertebræ and rib-joints. One might often see in the dissecting-room three or four cervical vertebræ ankylosed, and a similar condition in the thorax, the ribs ankylosed to the vertebræ, and false joints developed in connection with the first and other ribs. In several joints, especially in the left shoulder and wrist, in the present case, there was marked crepitation, as if from the destruction of cartilage. This view was borne out by his rheumatic history.

Dr. F. J. Smith would suggest either rheumatic arthritis or a local pachymeningitis of the cord as the cause of the symptoms. The diaphragm, however, was working perfectly, and the trapezius, supplied by the fifth and sixth cervical nerves; this made the sclerosis theory difficult.

The President inclined to the osteo-arthritic theory: that is, that it was a diathetic disease, whether neurotic or not, but evidently acting through the joints.

Mr. A. H. Tubby read a paper on "*The Pathology and Treatment of Acute Necrosis of Growing Bone.*"

Acute inflammation of bone is universally accepted to be of most common occurrence during the periods of childhood and youth, and the following remarks are confined to these ages.

The importance of the layer of embryonic, and therefore unstable material, at the growing line, must not be underrated in the consideration of the origin of bone diseases. Prone to great normal activity, it is also subject very readily to any abnormal influence, and it is "but reasonable to expect that it will be the first to show pathological changes, and that the changes will be most marked here." The writer thinks that if we are to explain satisfactorily the mode of onset of the disease, the concurrence of periostitis and endostitis, the early and complete separation of the shaft with necrosis of its whole thickness, some region of bone other than the periosteum or medulla must be the site of earliest inflammation. This region is believed by him to be that vascular layer of young growing bone—the juxta-epiphysial junction. Inflammation commencing here spreads upwards to the medulla and outwards to the periosteum, assisted by the peculiar disposition of this membrane at the epiphysial line.

The writer then would advance the following statements for consideration:—

1. The disease variously known under many synonyms, but for convenience here called Acute Necrosis, and characterised by a definite train of symptoms, is due to the irritation and

suppuration occasioned by the entrance and development of micro-organisms—the Staphylococci pyogenes aurei.

2. The earliest symptoms of the disease appear in the juxta-epiphysial regions, and spread thence inwards to the medulla and outwards to the periosteum.

3. That in cases of total death of the diaphysis, the destructive process is most marked at the extremities, the bone here being found eroded and gangrenous ; and further, that there is a loss of tissue, so that the dead shaft no longer fits accurately into the epiphysial and periosteal cap.

4. If the origin of the disease as a juxta-epiphysitis be conceded, then a more thorough and radical method of treatment is necessary, and operators must not merely be content with incising the periosteum and letting out the pus, but should attack the disease at its very root, and by tunnelling the juxta-epiphysial junction in addition, allow a sufficient exit for the products of the inflamed medulla.

5. A few remarks will be made upon the channels of ingress of the micrococci into the blood other than the respiratory and digestive tracts, and the bearing of such other modes of ingress upon the disease in question.

Statement No. 1 is now accepted as true by all investigators.

2ndly.—The earliest appearances of the disease are found in the juxta-epiphysial region.

With the object of testing the truth of this statement the writer made experiments on rabbits at the Pathological Institute in Leipzig, and was enabled, by the kindness of the Council of the Royal College of Surgeons, to examine the results.

The experiments and examinations were made in the years 1888 and 1889.

Experiment No. 1.—Black rabbit aged six weeks. Under ether an incision was made down to the bone on the outer side of the right femur, and then with a carefully sterilised needle a puncture was made in the bone at the epiphysial line and a pure culture of Staphylococcus p. aureus in fresh distilled warm water was injected by means of a hypodermic syringe. A similar operation was performed on the lower end of the left femur, except that the microbes were injected into the

medullary cavity. Both wounds were treated antiseptically and covered with iodoform and collodion. The rabbit died 36 hours afterwards.

Microscopical Examinations.—Sections through the right femur taken longitudinally gave no evidence of any thickening of the periosteum around the site of injection, and no formation of new cells in it. The micrococci are especially abundant in this part and are arranged in groups. Longitudinal section of the left femur again shows no change in the periosteum, but already 36 hours after death there are seen two yellowish areas in the section, one in the diaphysis near the growing line, and the other in the medulla of the diaphysis. In both places the normal tissues are replaced by a yellow mass, which gradually fades off into the surrounding tissues.

Experiment 2.—Rabbit aged eight weeks. On June 13th an incision was made over the left internal jugular vein and it was exposed. With a carefully sterilised needle a dose of staphylococci was inserted into the cavity of the vein. The animal died June 20.

Post-mortem Examination.—Six hours after death. Extensive disorganization of the right hip-joint, joint cavity filled with pus and an enormous collection of pus in the muscles around, also pus in left elbow-joint and an empyema in left pleural cavity, and abscesses in lung, heart, liver and kidneys, but none in the spleen. Left internal jugular vein not thrombosed. On examining the various bones there was no pus beneath the periosteum, but the medulla of the right femur and left humerus was much injected, darkish and patchy, but there was no pus present. The ossific nuclei of the epiphysis were much inflamed.

Microscopically.—Right femur. In several sections is seen an area of broken-down bone on the shaft side of the epiphysial line. In this broken-down area a number of rounded indifferent cells, probably pus cells, and many micrococci are seen. Beneath the periosteum no new cells and no signs of infiltration with inflammatory material are evident. Another specimen also shews the same appearances, but the changes in the medulla are more marked. The left humerus also shews in the juxta-epiphysial region two yellowish areas which are fairly circumscribed, and the edges of which fade off into the

surrounding healthy bone structure. These yellowish areas appear to be purulent foci, as the remaining small-celled material is stained bright red and not yellow, and another specimen shows the same appearances in the same relative position.

Experiment 3.—Rabbit aged nine weeks. A quantity of pure cultivation of the microbe was inserted into the bony substance of the left femur just at the epiphysial line, as was afterwards proved. At the lower end of the humerus, with a second and very carefully sterilised drill, a puncture was made deeply into its substance, just above the elbow-joint and the cancellous tissue broken up, but no staphylococci inserted, in fact every precaution was taken to prevent their entrance. The rabbit died five days after.

Post-mortem Examination.—The left shoulder-joint was full of creamy pus, and in the muscles of the left thigh there was also an enormous infiltration. The bony nucleus of the upper end of the left humerus was inflamed and reddened, and so to a less degree was the lower epiphysis. The medulla and cancellous tissue were of a dark red colour, the former softened in patches.

The microscopical examinations of the left humerus show no Howship's lacunæ nor osteoclasts nor purulent areas, but in the juxta-epiphysial junctions are many broken-down areas of a yellowish colour, and in these very many micrococci are seen. These yellowish areas are assumed to be commencing foci of suppuration, both from the character of their contents and the manner in which they fade off into the surrounding healthy tissues. It is noteworthy that lining the inner surface of compact bone a layer of yellowish broken-down material is seen, formed evidently from the medulla. It may be perhaps advanced that if in this case the disease had progressed further the bone would have died from cutting off of the blood supply from within outwards, and not as is supposed to occur in acute periostitis from without inwards.

From these experiments it may be fairly advanced that of the three structures—the medulla, the juxta-epiphysial junction and the periosteum—the first two are more susceptible to the presence and irritation of the specific microbes, and are the

earliest to take alarm, while the periosteum is so comparatively tolerant of them that although a mass be implanted beneath it, as in the previous experiment, yet it shows no striking departure from the normal condition, for at least two days, while the medulla and juxta-epiphysial regions are already undergoing morbid change. In other experiments (i., iii. and iv.) the periosteum was injured, yet no separation occurs, no formation of pus, but purulent foci are found in the marrow and young growing bone at the end of the shaft. Inasmuch, then, as the juxta-epiphysial junction is, in these experiments, the site of early inflammatory change, it is but reasonable to expect that if the animal had lived long enough we should have found from the anatomical relations of the parts an acute purulent periostitis and osteo-myelitis.

3rdly.—In cases of necrosis of the diaphyses, the destructive process is most marked at the extremities, the bone being found eroded and often gangrenous; and further, there is a loss of tissue, such that the dead shaft no longer fits accurately into the epiphysial and periosteal cap.

Klose's description of a case of meningo-phlebitis bears this out. Reference to cases would serve to emphasize the exceeding amount of inflammatory destruction of the shaft at its extremities, and I am inclined to think that such destruction limited to the extemities points not only to the nature of the morbid process, but to its actual site of origin and focus.

4thly.—A more thorough and radical method of treatment is necessary, not merely by incising the periosteum, but by tunnelling the juxta-epiphysial junction, &c.

In one of the most recent works on Diseases of the Bones, Mr. Jones, speaking of osteo-myelitis, says: "The great desideratum is the early recognition of these cases, and the prompt adoption of some simple method of treatment, such as free periosteal incisions with removal of the suppurating marrow through trephine holes" (page 84). But, writing in an earlier part of his work (pages 37 and 38), he remarks: "Acute periosteal abscess has to be diagnosed from acute diffuse cellulitis and acute osteo-myelitis. The age of the patient, the character of the pain, usually limited to the diseased bone, together with the effect produced by exploratory incisions, will

help in discriminating it from the former; while the *course of the disease and the insufficiency of incisions through the periosteum alone*[1] are points to be remembered in distinguishing it from the latter." Further, in speaking of the diagnosis of the nature of the bone disease, he adds: "The *subsequent course* of the disease will give valuable information as to whether it is periosteal or endosteal."

Now, Ollier states that "trephinings made antiseptically into bone do not produce necrosis; they constitute, on the contrary, the best means of preventing it." Trephinings into inflamed long bones are attended with no more risk than trephinings of the flat bones of the skull when the pericranium and subcutaneous tissue is inflamed.

Why then wait until the course of the disease has enabled the surgeon to complete his diagnosis? By that time in all probability the disease will have caused partial or entire necrosis of the shaft, and grave constitutional symptoms will have set in. Surely it is better, even in the early stage of the disease when there is marked pain, associated with swelling and fulness of the veins of the limb and rigors, to make a single incision down to the bone through the soft parts and periosteum, and then trephine in the juxta-epiphysial region, and at a point about an inch or two higher up, and so open up at once all three structures: the periosteum, the juxta epiphysial-junction and the medulla. Should improvement then not set in, it would not only be permissible but rational to open up the medullary cavity at the other extremity of the diaphysis and clear out the medulla. Such a course will give the affected bone the best opportunity of recovering itself, and the patient will be spared not only the immediate dangers, but those arising from long continued suppuration due to exfoliation of the necrosed tissue with formation of new bone.

The writer, then, would urge most strongly that in all cases of acute bone disease of young subjects the treatment is incomplete without at least trephining the juxta-epiphysial junction. Such a course can have no possible effect on the subsequent growth of the bone so long as the aperture is made above or below the

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[1] The italics are the writer's.

line of proliferating cartilage, and its early adoption would be attended with such good results that removal of the entire shaft by sub-periosteal resection will no longer be called for, nor is the neighbouring joint so likely to become affected, either by perforation of the epiphysis, or by extension along the periosteum.

5thly.—The channels of ingress of the micrococci. They may, and probably do, find an entrance into the blood through the respiratory tract, and Kraske notices the not unfrequent occurrence of pneumonia in advance of bone disease. Some too will find an entrance through the digestive tract; but it appears that we must look rather to the skin as the main portal of the organisms. Some personal observation here may throw light on the matter. In examining sections of skin from a case of this nature, the sweat ducts were seen to be more dilated than usual, and to be crowded with micrococci.

Now, osteo-myelitis and acute periostitis occur in those very bones which are more exposed to violence and least covered by the tissues. It seems from this fact that the usual history of a slight blow has more significance than is at first apparent. I have observed that the skin in bruises presents one of two appearances, it is either excessively dry, or else covered with a copious perspiration, pointing respectively to occlusion of the minute subcutaneous arterioles and capillaries by extravasation, or to paralysis of the vaso-motor nerves. In the former condition of dryness of the skin, it is very possible that some micrococci present on the surface of underclothing may be rubbed into the sweat ducts, and there proliferate, and then make their way to the bone. It is advantageous to couple with these observations Kraske's remark, that in many cases inflammation of bone follows, and is consequent upon a primary inflammatory focus in the skin and subcutaneous tissue, and this has also been noted by Lannelongue and Pettit, independently. Rosenbach's success in producing osteo-myelitis with pus from boils is well known.

It is desirable to obtain experimental confirmation of the part the skin plays, and the writer thinks this might be effected by the administration of belladonna to rabbits, rendering the skin dry, and then rubbing in the micro-organism in distilled

water, and further confirming any results so obtained by bruising the skin over the lower end of the femur of another animal and applying the micrococci in the same way, noting the effect on the bones and microscopical appearances in both.

The share taken by the periosteum in the increase of the total weight of the bone cannot without difficulty be compared to that taken by the epiphysial line; but presumably the share of the latter is much greater, remembering how much greater is the increase in the length than in the thickness of bone. Physiological activity is greater at the ends of the shaft than at its circumference, if we judge only from the nature of the bone formed. At the extremities soft cancellous bone is rapidly produced, while at the circumference hard compact bone is formed. The blood vessels are larger and the circulation is slower in the former position, and that deposition of the micro-organisms should occur more readily in the juxta-epiphysial junction than beneath the periosteum is what might reasonably be expected.

Dr. F. J. Smith observed that the paper shewed us our ignorance. We knew little yet of the life-history of these micro-organisms; if they were really as active and full of power for evil as it appeared, there would surely be epidemics of such disease.

Mr. J. Poland thought Mr. Tubby had shewn clearly the existence of an organism having a virulent action, by preference at the epiphysial line, in acute infective necrosis. Acute necrosis must, he considered, always be preceded by osteo-myelitis. The cases of necrosis occurring after the exanthemata Mr. Tubby had put aside; there the inflammatory process might commence in other parts than at the epiphysial line. He would call those cases rather subacute; the inflammation extending gradually inwards from the periosteum to the medullary cavity.

Dr. Turner said that the necroses after specific fevers were of very different character from acute necrosis. In his own case, there were swellings on various bones, of which one only suppurated, and a small piece of bone came away. They were chronic affections, and he would attribute them to thrombi in veins.

Mr. Tubby, in reply, agreed that the localised necroses alluded to had nothing whatever to do with acute infective necrosis; a point that needed insisting on. In reply to Dr. Smith, the question of liability to the attacks of the organisms was the deciding point.

Mr. F. R. Humphreys read notes of "*Two cases of Migratory Pneumonia*" with complications. The first was of a lady, aged 46 years, in whom the usual signs of pneumonia appeared. One lobe after another of the right lung were affected in succession, and rupture of the lung occurred, probably from old tubercular

mischief. She convalesced, but died suddenly about the 15th day with much dyspnœa and swollen legs. The second case was that of a gardener, in whom the congestion process advanced until it had consolidated the entire right lung and the apex of the left. Much alcohol was administered. The heart's action was very weak, and evidence of cerebral mischief appeared about the ninth day; the left arm was rigid and the pupils unequal. The illness pursued a long course, but with eventual recovery.

Dr. Hingston Fox alluded to a recent and rather fatal epidemic of pneumonia in Tottenham and the vicinity.

A Meeting was held on Wednesday, October 14th, 1891. Dr. STEPHEN MACKENZIE, President, in the Chair.

The Meeting had been announced as open to all members of the Medical Profession, and about 65 Fellows and Visitors were present.

Dr. Bedford Pierce was admitted, Dr. Walter B. de Jersey and Mr. Arthur H. Cheatle were elected, and Mr. Geo. W. Sequeira, Dr. R. Chetham Strode, and Mr. Edw. A. Burgess were proposed, as Ordinary Fellows.

Dr. Hingston Fox shewed a case of "*Lupous Ulceration of the Foot.*" The patient was a widow, aged 68 years, very ill-fed and feeble. The disease was of two months' duration. The foot was œdematous, and an oblong area, some three inches in length, on the outer edge of the sole, was occupied by an ulcer, covered with a dense coarse papillary growth, and this again was capped by a black crust of dried pus secretion. Two smaller ulcers were situated near it, and a smooth somewhat depressed cicatrix had apparently been the site of another.

Mr. J. Hutchinson said the case illustrated the combination of different elements in the production of disease. There was no doubt in the background an inherited scrofulous tendency, which in the debility of old age had shewn itself afresh. Excoriation from the boot may have been the exciting cause, setting up chronic inflammation, and unhealthy ulceration of the lupus kind. Lupus did occur in advanced life, although said not to do so; he referred to a case where it recurred 30 years after it had been cured. Lupus on the hands and feet differed from the disease on the face, there was no apple-jelly-like deposit, but there was a tendency to papillary growth. This papillary growth tended often to pass into epithelial cancer, and not improbably so in this case. Lupus was not a specific disease, but a product of several causes, and even epithelial cancer was no exception to

this law; combine chronic inflammation and senility, and you will often get epithelial cancer. The treatment in this case was important, for the condition was dangerous: the growth should be carefully destroyed, after removal of the crust; the bodily powers needed generous support.

The President, in a few introductory remarks, explained the institution, by the Council of the Society, of the Hunterian Society Lectures. Such lectures gave an opportunity for the more complete treatment of certain subjects. And the Hunterian Society, as the only Medical Society of the City of London, felt that it might fulfil a duty towards the practitioners of the City and East End by instituting lectures, open to all members of the profession. He then introduced Mr. Hutchinson, as one who had conferred great benefits on the Society in the past, having served it in every office in former years.

Mr. J. Hutchinson then delivered the first *Hunterian Society Lecture*, taking for his subject "*The Laws of Partnership in Disease.*"

The Lecture is reported in full in *The Lancet*, 1891, vol. ii., p. 860.

A very cordial vote of thanks to Mr. Hutchinson for his lecture was proposed by **Mr. R. Clement Lucas,** seconded by **Mr. R. G. Tatham,** and carried by acclamation.

A Meeting was held on Wednesday, October 28th, 1891. Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. James Galloway read a paper on "*Cancerous Affections of the Peritoneum and other Serous Membranes*," of which the following is an abstract:—

George W., æt. 50, was admitted to the London Hospital on the 11th December, 1889, under the care of Dr. Stephen Mackenzie. He gave a history of $2\frac{1}{2}$ years' suffering from symptoms of dyspepsia, which had been especially troublesome during the twelve months preceding admission, and during this period he had lost four stone in weight. Four months previous to admission he had observed a tumour in the abdomen, and during the last three months had noticed the eruption of small hard nodules under the skin in various parts. The abdominal tumour increased in size, causing much pain and discomfort, especially over-distension of the stomach; cachexia with extreme anæmia became marked, and the subcutaneous nodules increased in number rapidly. On one occasion he had severe hæmatemesis followed by melæna. The temperature sank below normal, and he died about five weeks after admission.

On post-mortem examination, the patient was found to be suffering from carcinoma of the pyloric extremity of the stomach, invading the stomach for about one inch towards the cardiac extremity. The lesser omentum and liver contained numerous nodules of new growth, tending to become caseous and hæmorrhagic in the latter situation. The cœliac, lumbar and mesenteric lymphatic glands were all infected by the new growth. The parietal peritoneum was thickly studded with small tumours, the largest being about the size of a pea; the parietal and visceral layer of the pericardium and pleuræ were also studded with small masses of new growth, most of them about the size of grains of barley. The mediastinal glands and subcutaneous tissues were also extensively affected with the new growth.

This case, quoted in brief, gives an example of one of the more common methods by which malignant growth affects the serous membranes. On examining the records of 70 cases of growths of serous membranes, either coming under our own observation, or in which trustworthy post-mortem examination had ascertained the character of the growth, 48 were found to be cases of secondary carcinoma of various descriptions; 14 occurred in males, and of these 13 followed primary carcinomatous affection in the alimentary tract; 34 occurred in females, and in 24 cases were secondary to primary growths in the ovaries, uterus and vagina.

Secondary Carcinoma.—In this large group of cases three main varieties of affection were found to occur.

1. The cases in which the secondary growths are of large size, deserving the term "massive," and showing a very marked tendency to coalesce. On opening the abdomen in such a case, the nodular growths fill up the cavity to such an extent that the normal contents of the abdomen are frequently hidden. The pelvis, the recesses under the liver and around the spleen contain much of the growth; but usually the great omentum is the portion of peritoneum most affected, frequently being transformed into a huge lobulated mass, stretching across the epigastric and umbilical regions. The subserous connective tissue is the portion of the membrane involved, the peritoneal surface being quite smooth and apparently covered by unaltered

endothelium. The muscular coats of the bowel usually escape infection in this variety of growth. Occasionally the secondary growth, instead of assuming the nodular shape referred to, spreads along the lymphatic vessels and spaces of the subserous tissue, thickening it almost uniformly, sometimes to the extent of half an inch. Large areas may be thus affected, surrounding the intestines and encrusting them so thoroughly and firmly as to cause the lumen to be permanently open, and offering a great obstruction to the muscular movements of the gut. In other cases the nodules assume somewhat polypoid forms, and appear then to be especially liable to the colloid degeneration.

2. In this division we would place those cases of secondary growth in which the polypoid form is more marked. The pedicle is frequently much attenuated, and the nodules of carcinoma are so attached, that the comparison to a bunch of currants is not inapt. Most frequently it appears that the ovaries are the primary seat of growth in this class of cases. The pedicles are often short, and when absent the growths have a papillomatous appearance, suggesting their origin from the papilliferous cystic growths which so frequently originate from the ovary. The method of infection of the peritoneum is a subject of much interest in these cases. The eruption of nodules on the peritoneal surface is frequently exceedingly rapid, and it has long been suggested that from the ovarian cysts germinating cells escape into the peritoneal cavity, and becoming fixed on the serous membrane, commence to produce secondary tumours. These growths seem to be the least malignant of the secondary affections of the peritoneum.

3. The third subdivision of cases includes the group characterized by the appearance of innumerable granules of carcinomatous deposit over the serous membranes. This form has attracted attention for many years, and was designated by the late Dr. Sutton, from its resemblance to true tubercle, as the "cancerous tubercle of the peritoneum." The superficial likeness to tubercular growth is very striking, especially as the changes resulting in the peritoneal cavity are very similar. When the primary growth is difficult to find, microscopic examination readily sets the question of classification at rest, by the disclosure of the easily recognised structure of carcino-

matous growth. In this variety of the disease the symptoms of serous effusion into the cavities affected are particularly prominent, and the amount of secondary peritonitis is very great. The formation of adhesions, membranes, and new connective tissue in the peritoneum is occasionally so great as to obliterate the cavity, the granules of growth being found scattered throughout the recently formed tissue. The peritonitis is very rarely acute, and pus is not found unless perforation of the intestine or some other septic cause has been at work. This is the variety of secondary carcinoma which is observed most commonly in the pleuræ and pericardium.

The occurrence of chylous ascites is noteworthy as an occasional symptom in this variety of cancerous infection. Where the adhesions and contractions of the serous membrane are great, the phenomenon is more readily produced, and there has been described a case where small nodules of growth seemed to be arranged along the mesenteric attachment of the bowel, that is to say, in the efferent lymphatic vessels, thus causing still greater obstruction to the lymphatic circulation, with consequent extravasation of chyle into the peritoneal cavity.

In reference to the spread of secondary growths from the original focus it is noteworthy that in the peritoneum portions are affected, which are far removed from the course of the ordinary lymphatic vessels leading from the part. The lymphatic glands earliest affected are naturally the first in order in the course of the lymph-stream; these, however, soon become choked with cancerous growth, and thus act as obstructions to the lymph circulation, which seeks out collateral channels. In this way the liver early becomes affected in cases of cancer of the pylorus, the cœliac lymphatic glands having become blocked, and similarly the lumbar lymphatic glands become involved.

Primary Carcinoma.—There remains a class of cancerous affection of serous membranes to be referred to briefly. On examining old records of cases of malignant disease of serous membranes, the number of cases described as "primary" is very striking. No doubt there were mistakes in description before accurate examination distinguished many cases of tubercle amongst the so-called primary cancerous affections.

But with the modern ideas of the formation of the body cavity from the splitting of the embryonal mesoblastic layers, giving a similar origin to the serous endothelium as to the ordinary connective tissues, the possibility of a primary carcinomatous growth in a serous membrane seems quite impossible. Yet all the cases of primary growth which have been recorded can hardly be explained by mistakes in description or by failures in finding the original growth. Even on approaching the subject with a predisposition to discount the cases of primary affection on these grounds, there still seem to be certain cases where an eruption, usually of granular growths, usually attended with much chronic peritonitis, may occur either in the peritoneum, pleuræ, or pericardium. The granules are typically carcinomatous in their microscopic structure, and yet no primary lesion is discoverable.

Of the 70 cases we have examined, three occurred in our own experience, and possibly three more among the reported cases consulted, in which the characteristics referred to were found.

On the mesoblastic theory of the origin of the body cavity this would be obviously almost impossible of explanation. We would refer, however, to the investigation of Balfour and the Hertwigs, in which it is distinctly proved that in many of the lower vertebrata at all events the body cavity is an out-pushing—a lateral diverticulum—of the original alimentary canal. In these cases the endothelial lining of the body cavity is a direct descendant of the cells of the hypoblast, and therefore of the same character embryologically as the epithelial cells of the mucous membrane of the alimentary tract.

The occurrence of primary carcinomatous growth in serous membranes, if well ascertained, would lend great support to the possibility of a similar origin of the body cavity in the higher mammalia. These cases of possible primary growth seem to be very chronic in character, often giving rise to repeated and profuse serous effusion as well as much chronic peritonitis.

Sarcoma affecting Serous Cavities.—Among the 70 cases alluded to as affording the basis of these observations, 14 cases of sarcoma of various sorts occurred. Lympho-sarcomata of the mediastinum, a well recognised and not uncommon variety of growth, were not included in this category. In the peritoneal

cavity six cases were found to consist of lympho-sarcoma, commencing apparently in the lumbar lymphatic glands or their neighbourhood. Occasionally the muscular tissue of the hollow viscera are affected, and in these cases it is instructive to note that the sarcoma cells creep between and dissect out the involuntary muscular fibre, not destroying the muscle cells till a considerable mass of new tissue is formed. In this respect there is a great contrast to the rapidly destructive changes produced on the muscle-fibre when carcinoma invades the same structure.

All varieties of sarcoma may be found in relation to serous cavities; thus in the 14 cases already referred to there occurred, besides lympho-sarcomata, 4 cases of myxo-sarcoma of the omentum, 2 cases of mixed and round-cell sarcoma, originating respectively in the periosteum of the femur and in the epididymis, and 2 cases of melanotic sarcoma, originating in the eyeball and skin. The amount of serous exudation in this series of cases is usually slight, and there may be little or no chronic peritonitis.

The President characterized the paper as a clear exposition of a difficult subject. The tracing of the disease by lymphatic spread clearly shewed, he thought, that the general circulation was not involved. As contrasting with the peritoneal growths, he mentioned a series of cases he had brought, many years ago, before this Society, in which the deposit of cancer in the epithelium of the gut had caused an annular stricture. He was very familiar, clinically, with cases of the third category mentioned by Dr. Galloway: chronic ascites, simulating hepatic disease, but due to numerous small cancerous tubercles. Even so great a clinician as Dr. Sutton had been known to mistake ascites due to cirrhosis of the liver for this condition. This was in the case of a young woman, aged 18 years, in whom no history of alcoholic excess could be obtained; yet it proved to be cirrhosis—one of those strange cases in young persons in which it is independent of alcohol. He belived that cases of cancerous tubercles combined with hepatic cirrhosis had been met with; their causation offered ground for speculation.

Dr. Fred. J. Smith referred to Cohnheim's doctrine of the origin of carcinoma from the epiblastic and hypoblastic layers, and of sarcoma from the mesoblastic. This was no longer holding its ground securely. Mr. Hutchinson thought that common inflammation, in partnership with some other causes, especially senility, might produce cancer; that it was not a special growth at all, and might, he presumed, occur in any tissue. Dr. Galloway's apparent proof that cancer could start from non-epithelial tissue further impugned the doctrine. He thought Hutchinson's Law of Partnership would claim a yet larger part in the causation of disease in future. He objected to the use of the term "tubercle" when we really meant a nodule; the word "tubercle" should, he submitted, be left for the description of bodies in which the tubercle bacillus was demonstrated or demonstrable.

Dr. Galloway, in reply, would not exclude the blood circulation as involved in the spread both of carcinomata and sarcomata. Dr. Turner had lately shewn a specimen at the Pathological Society, in which by the irruption of cancerous nodules into the portal circulation secondary growths were started in the liver. He had begun his observations as a strong believer in Cohnheim's view, but as he advanced he was obliged to acknowledge true cancerous growths as arising from the mesoblastic tissues. He agreed as to the use of the word "tubercle," but many of the recorded cases of "cancerous tubercle" were, he believed, cases of true tubercle.

Mr. J. Hutchinson, jun. contributed a paper on "*Fatty Tumours of the Groin.*" He shewed a specimen of a very large fatty tumour, 11 lbs. in weight, and 14 inches in length, removed from an old woman, aged 80 years; it hung down nearly to her knees. The operation was not difficult; large arteries and veins had to be previously secured, but there were no connections except to the subcutaneous tissue of the mons veneris, and it shelled out quite easily. The tumour contained much liquid, with lumps of fat floating in it. The question of its sebaceous nature might be mooted, but he had no doubt as to its being a lipoma. The wound healed by first intention. Many such cases had been recorded. In a French case, a mixed sarcomatous and lipomatous structure was found; the growth recurred after removal, and death eventually followed. But he thought that it had yet to be proved that a lipoma could become a sarcoma; probably the tumour was a sarcoma from the first, with extensive fatty degeneration. Photographs were shown of a man who had a large diffuse lipoma growing from the groins and practically covering his penis, also a large growth under the jaw, a suboccipital tumour, and another between the scapulæ. He removed the pubic mass; owing to a faulty choice of incision, some sloughing of skin took place, and healing was slow. The hypertrophic masses in the neck have very slightly lessened under regulated diet, avoidance of beer, and sulphide of calcium internally. Mr. Hutchinson then referred to subperitoneal lipomata which passed down through the inguinal or femoral rings, and were the precursors of hernia; some cases were brought by him before the Pathological Society a while ago. They commonly occurred on the left side. Several of the cases of so-called third testicle (as one he had seen), were in reality cases of lipoma.

The President thought the tracing of some herniæ to subperitoneal lipomata was of much interest; he had seen the case of multiple lipomata alluded to.

Dr. James Galloway had seen the large lipoma removed from the woman. The contents had a peculiar grumous appearance, with myxomatous-looking masses, proving that it could not be a sebaceous tumour. There was no inherent impossibility in sarcomata arising from lipomata; connective-tissue elements were of course present in the latter.

Dr. E. G. Gilbert read a paper entitled "*Some remarks on Colds*," premising that he included all disorders which were, or were supposed to be, produced by cold. He alluded to the effect of frosty weather on old persons and infants, as causing more vital depression than was generally recognised. In other cases, especially of servants or shop girls, cold often produces a general weakness, and loss of power. Cold, however, was often ascribed as the cause of disease on insufficient grounds. Catarrhs might as well be termed "heats" as colds, being often caused by going into an overheated atmosphere out of a cold air. Febrile patients will bear exposure to cold well. Draughts were too much feared: they would not hurt unless they felt disagreeable. But the risk of a chilly room was very real; even the wealthy seemed unable to keep their rooms warm. Rheumatism was caused, he thought, by various lowering agencies, of which cold was one; overwork, or undue heat were others. Pleurisy, it had been stated, was never caused by cold alone; but he related a case to disprove this. Different epidemics of catarrh were marked by characteristic symptoms; in one ophthalmia, in another inflammation of the meatus of the ear, or laryngitis occurred. Pleurodynia had been prevalent since the influenza. As to the treatment of catarrhs, he advocated the initial dose of opium, thought open air good after the first few days, and terebene in an emulsion with quillaia useful when copious expectoration was present. Cough from irritation about the laryngeal orifice he had found relieved by a mixture of a grain each of common salt and carbonate of soda, one minim of vin. ipecac., and one drachm of chloroform water, repeated every hour.

Dr. Dundas Grant alluded to Mr. Hutchinson's view of catarrh as being an inflammation of one part of the body due to exposure of another part. The personal equation of the individual was one of the elements producing a cold; if you expected one, you would get one. The human organism might be compared to a watch: some of us were *uncompensated*, and

suffered from meteorological changes. Such persons were affected by cold and hot weather, getting perhaps constipation or diarrhœa; sometimes cold, at other times flushed; at one time a congestive headache, at another an anæmic headache; the urine scanty, or polyuria occurring. Strong, vigorous people were unaffected by weather changes. We might fall from the compensated to the uncompensated condition by our own folly: smoking too much, working, or driving too hard, &c. Sitting in a hot room and then sleeping in a cold room was one of the causes of colds. People said they could not get up at night to poke the fire; they should use the hard steam coal burned in Scotland. In that form of cold in which the turbinated body is congested or erected, the use of a dilute solution of cocaine gave intense comfort; with the addition of a small proportion of menthol, its effect was longer, or diluted with coffee it could be applied as a snuff.

Dr. Gilbert replied.

A Meeting was held November 11th, 1891. (Clinical Evening.)
Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. R. Chetham Strode, and Messrs. Geo. W. Sequeira and E. A. Burgess were elected, and Dr. C. T. Aveling and Mr. Chas. T. W. Hirsch were proposed, as Ordinary Fellows of the Society.

Dr. J. S. E. Cotman exhibited a case of "*Blushing and Profuse Sweating of the Right Side of the Face, produced by Mastication of Food*," and following parotid suppuration. He said that the case was one of considerable interest from its rarity, and from its opening up a wide field of speculation as to its cause. Reference was then made to the few recorded cases. In 1848, M. Berard, in his "Physiology," refers to his own father, who had had parotid abscess, and whose cheek during a repast reddened, whilst an abundant flow of "saliva" issued. Brown-Séquard stated that somewhat similar cases had been recorded by Stannius, Henle, Sir H. Holland, Geiseker, and Oesterlen. In 1860, Rouger described, in the "Journal de Physiologie," two cases of what he termed Parotidean Ephidrosis. The first was of a man, aged 40 years, wounded 18 years before by a ball which traversed the orbit and passed out behind the ear. Since then, whenever he ate the skin of the parotid region became covered with droplets of thick fluid resembling saliva. In the second, a woman of 35 presented the same phenomena, dating from three years before, when she had had severe inflammation of the

parotid. In 1868, Maschede recorded a case in Virchow's Archiv. A man, aged 40 years, insane, was admitted to the Schwartz Asylum in Prussia. Profuse unilateral sweating of the face was the most remarkable of a number of pathological conditions present. The necropsy showed both kidneys enlarged with cystic degeneration, and marked atrophy of the cranium. As recently as 1874, Oliver, of Paris, claimed to put the first case of this kind on record. A healthy man of 21 had from birth suffered from almost continuous perspiration of one side of the face; talking or any mental excitement brought it on. His maternal grandfather, aunt and cousin also suffered. In 1888, Dr. Anderson described at the Medical Society (see *Lancet*, 1888, vol. i., page 175) a case of sweating of the right side of the face and scalp, chiefly at meals. Dr. S. West mentioned that he had seen two cases associated with cardiac disease, and Dr. Hadden drew attention to a case in which there was hemiatrophy of the tongue, and of one vocal chord. MM. Berard and Rouger, in their cases, seemed to have jumped to the conclusion that the exudation must necessarily be saliva. They did not seem to have examined it, and without an actual fistula it was hardly reasonable to expect saliva to appear on the cheek.

Dr. Cotman's case was a young man, W. E., aged 17 years. Six years ago he had a severe deep-seated inflammation of the right parotid gland, with suppuration. Openings were made on two separate occasions; the scars remain. Soon after recovery he noticed a sweating of the right side of the face whenever he ate, and this had persisted to the present time. The eating of any food would produce it, the nicer the food the more profuse the sweating; a sour apple was, however, the most effectual. Chewing indiarubber or cork had no effect. The flow was synchronous with that of the saliva. Fifteen seconds after chewing the apple a red blush appeared on the right cheek, ten seconds later the sweat appeared, and after a further twenty seconds the drops collected and began to run down the face. The fluid was examined, and found to have an acid reaction, and to contain chlorides in abundance. It exuded from innumerable points on the cheek, before coalescing in drops. Dr. Cotman went on to remark upon the pathology

of the case. In this case, and in the cases quoted, the condition followed parotid suppuration. In his opinion the cause lay in a disorganisation of nerves, produced by the inflammation and suppuration of the parts close to and in front of the stylo-mastoid foramen. The affected area on the cheek was supplied by the auriculo-temporal branch of the fifth cranial nerve. The chorda-tympani nerve (as illustrated by diagram) passed in front of and close to the trunk of the auriculo-temporal, before the latter divided into branches to supply the affected area. In the normal production of saliva we had as the afferent nerve the glosso-pharyngeal, and as the efferent the secretory motor branches of the facial, with the centre in the medulla. He would suggest that, owing to the exceptionally deep and intense suppuration, the almost contiguous nerve-trunks of the auriculo-temporal and the glandular branches of the facial had become interrupted, and during the healing the new axis cylinders thrown out from the centre to the periphery had wandered from the central end of the facial to the peripheral end of the auriculo-temporal, and had remained there, so that an impulse generated by the glosso-pharyngeal in the medulla was carried partly in the normal direction to the salivary glands, and partly by the wandered fibres to the auriculo-temporal, and so to the cutaneous glands. Dr. Cotman believed it to be the first case on record in England.

Dr. F. J. Smith thought the case of very great interest, and one difficult even for the physiologist to grasp. He enquired as to sensation in the affected area. Could the patient feel heat and cold and other artificial stimuli? Would any other peripheral irritation produce the same effect?

Dr. Gilbert alluded to a case in which a patient broke out into profuse perspiration upon the face whenever mustard was placed upon the table.

Dr. Langton Hewer asked as to the exact period after the suppuration at which the symptoms appeared.

Mr. Percy Warner mentioned a case of Tic which had come on after suppuration in one parotid gland.

Mr. Fendick remarked on profuse perspiration occurring during drinking.

The President said it was clear that the acid stimulus from eating the apple had produced the flow, showing that the condition was physiological and not mechanical, thus, the chewing of cork did not produce it. Had the chorda-tympani nerve been tested? Was there any loss of taste in the front part of the tongue?

Mr. Openshaw thought the area of redness did not quite correspond to the distribution of the auriculo-temporal nerve; it was here more below than above the zygomatic arch. He asked whether the phenomenon might be due to reflex dilatation of the transverse facial artery.

Dr. Cotman, in reply, said that galvanism of the tongue produced no flow of fluid. No other peripheral irritation had been tried beyond those mentioned. There was no loss of taste on either side of the tongue. The sweating was first noticed some weeks after the wound had closed.

Dr. F. J. Smith shewed a case of "*Amyotrophic Lateral Sclerosis.*" The patient, a man aged 38 years, a printer by occupation, had noticed for the last twelve months a gradually progressive weakness of all four limbs, with jerkiness and unsteadiness in walking. On examination there was found to be considerable wasting of the muscles of the forearms and hands, with much loss of power; the electrical reactions were normal in quality, but the strength of current required for contraction was rather greater than usual. In the lower extremities, ankle clonus was readily obtained, and the knee-jerks were greatly exaggerated, but there was no evident wasting of the muscles, and the patient possessed practically full power in the legs. With these exceptions the man was in all respects perfectly healthy, and had no difficulty with bladder or rectum.

The President considered the case a typical one. He made some remarks on the qualitative wasting in muscles.

Mr. Denton Cardew had tested the case by electricity, and accounted the electrical changes in the case quite sufficient for the diagnosis of disease of the anterior cornua, the cathodal closure contraction being characteristic. The muscles disappeared fibre by fibre.

Dr. James Galloway also remarked on the pathology of the case, and on the degenerative changes in the nerve-cells of the anterior cornua which follow the changes in the neuroglia, in lateral sclerosis.

Dr. Smith, in reply, said that the prognosis was hopeless, and treatment of little effect, seeing that lead and syphilis were almost certainly excluded from the causation in this case.

Dr. F. J. Smith also shewed a case of "*Pseudo-hypertrophic Paralysis*" in a boy, aged 11 years. The gait, and the efforts made in assuming the erect posture from the position of lying on the floor, were very typical of the disease. His electrical reactions could not be ascertained. The pseudo-hypertrophy was not well marked, in that the bulk of tissue in the gluteal and calf regions was not very excessive, though what was present was remarkably firm. The peculiarity of the case lay in the absence of neurotic hereditary taint, and in the fact that he alone of his brothers and sisters was affected.

The President remarked that the solitary nature of the case was interesting. The disease usually ran through several generations in one family. The calf muscles were enlarged by the addition of fibrous tissue, and perhaps a little fat.

Dr. Dundas Grant exhibited a case of "*Papillomata of the Larynx, cured by Endo-laryngeal Operation.*" L. W., now aged 10 years, came under his care in August, 1889, suffering from extreme hoarseness, almost complete aphonia, and restlessness, with a whistling noise in her sleep. The symptoms commenced as a "cold," three months before, which had got worse, despite all treatment, including the very careful use of the laryngeal snare. Dr. Grant's efforts to remove the growths with that instrument were as unsuccessful as those of his predecessors. By means of forceps, however, he was able to remove sufficient of the growth to relieve breathing, and so obviate the need for tracheotomy or thyrotomy. When the patient was exhibited to the Laryngological Association, Sir M. Mackenzie spoke so strongly of letting well alone, that he abstained from further measures. She was shown before this Society (see Transactions, 1890-91, p. 65) having still two papillomata almost concealing the glottis, one growing from the right side of the inter-arytenoid space and insinuating itself between the vocal cords, the other on the front part of the left ventricular band. He then applied weekly a 1 in 4 solution of perchloride of iron, encouraged by Mr. Hovell's results in a case exhibited on the same occasion. As the condition remained unsatisfactory he again endeavoured to remove the growths with the ordinary Mackenzie forceps, with the result of effecting a complete clearance, as he now demonstrated.

Dr. Dundas Grant also exhibited some "*Laryngeal Forceps*" devised by himself, which he considered as safe as the snare, and having all the convenience of the forceps ordinarily used. They might be described as Mackenzie's cutting forceps, with a prolongation hinged on to the end of each blade, the prolongations having cutting edges, and being hinged together at their extremities. It was thus quite impossible to seize any of the normal structures of the larynx, and as they were made in two forms, one with lateral and one with antero-posterior blades, they were adapted for the removal of growths projecting beyond the edges of the vocal cords, or at either commissure, especially the posterior.

Dr. Dundas Grant likewise shewed a case of "*Occlusion of the Posterior Nares,*" in which he had perforated a cicatrix in the

right naris. The patient was a woman, aged 25 years, who had come complaining of deafness in the right ear. He found the right naris to be filled by a cicatricial tissue causing complete obstruction. Failing to pierce this with a blunt instrument, he passed a long swivel bistoury through the nostril, and slit the cicatrix in various directions. An india-rubber tube was left in for three days, but on removal, the opening reclosed, and the operation had to be repeated. She now kept one of Dr. Grant's vulcanite nasal tubes *in situ* for a fortnight at a time, and could clear the nostril quite well. Dr. Grant demonstrated the posterior rhinoscopic image to the Fellows. In cases in which a self-retaining *Palate Retractor* was required, Dr. Grant advocated a form devised by Hopmann, furnished with indiarubber bands, as giving a much better view than White's instrument, the best known in this country. The preliminary application of cocaine to the back of the uvula and soft-palate made its use quite tolerable by the patient. Dr. Grant also demonstrated the laryngeal appearances in a case of "tumour of one vocal cord."

Mr. Mark Hovell queried as to the cure of papillomata by perchloride of iron. He considered the forceps very ingenious, but they were applicable in a lesser number of cases than Mackenzie's forceps; they would be of no use for growths on the upper surface of the cords or at the anterior commissure. Mackenzie's forceps were quite safe in accustomed hands. The snare was only useful in certain cases, such as fibromata, for which forceps were inapplicable.

Dr. Dundas Grant, in reply, said he did not mean that the perchloride of iron was the only or chief treatment—it followed the operative removal. His forceps were intended for growths in the glottis calling urgently for removal. He thought it a benefit to humanity to supply safe instruments which the less practised operators could employ without danger, although it might diminish the need for the specialist.

Dr. A. T. Davies shewed a case of "*Graves' Disease.*" A woman aged 40 years, complained of vertigo, peculiar sensations on going out, with rushing feelings in the head, especially before her catamenia. Her symptoms dated from two seizures at Easter last, when she fell down unconscious, the mouth drawn to one side; she did not bite her tongue, was unable to speak plainly afterwards. She attributed the fits to great worry and anxiety; was in bed five weeks after them, and then noticed the prominence of her eyes, and became subject to fits of palpitation, headache, trembling and cold feet. Has had five

children, one still-born and one died of heart disease; one abortion. Father living and well, mother committed suicide through drink; only one brother, living and well; no insanity known in family. Her condition was as follows: eyes prominent, especially the left, in which there was a small sub-conjunctival effusion of blood. Pulse 120, varying between 102 and 140; tongue dryish; fine tremor of hands and also general tremor, heart regular, no thyroid enlargement. Her general condition had improved under treatment, and the tremors were less. Some restlessness and loss of memory. Dr. Davies alluded to the existence of cases of Graves' disease in lunatic asylums, and thought this an example of that disease in an early stage. The sequence seemed to be, first, epileptic fits, secondly, a state of terror caused by their occurrence, a condition which had been found so essential a factor in producing Graves' disease, and lastly, two out of the three cardinal signs of the disease developed, viz: rapid heart and prominent eyeballs.

Mr. Denton Cardew said that cases in which one or two only of the cardinal symptoms were present commonly recovered. In a case he knew, the symptoms became very typical during pregnancy, but when this was over they subsided entirely.

A Meeting of the Hunterian Society was held on Wednesday, November 25th, 1891. Dr. STEPHEN MACKENZIE, President, in the Chair.

Messrs. Arthur H. Cheatle and Geo. W. Sequeira were admitted as Ordinary Fellows.

Mr. W. J. M'Culloch Ettles was proposed for election as an Ordinary Fellow.

Sir Wm. Roberts, Drs. Pavy, Maguire, Leclercq and W. S. Macdougall, Messrs. Leopold Hudson and H. L. Rutter, and others were present as visitors.

Dr. Hingston Fox introduced a Discussion on "*Albuminuria in Relation to Life Assurance*," by the following paper:—

The remarks which I have to offer are based upon the records of 282 cases, examined by me for several Insurance Companies during the past seven years. I have excluded a considerable number in which no detailed note of the condition of the urine

was kept, as well as a good many re-examinations of the same person. 280 of the cases were of men; only two were of women; a few other women were examined, but the urine was not obtained. The age varied from 14 to 65 years—average 32·8 years. They belonged to the middle or upper middle classes of Society. Most of the men were engaged in commercial or professional life in or near London, about half of them as principals or employers, including a sprinkling from nearly every class, from Members of Parliament downwards; others were clerks, agents or travellers; a few were shopkeepers. All professed to be in good health.

Amongst these 282, I noted albumen as present in the urine in 86, or 30 per cent. These figures may be compared with those given by Dr. John Munn, of the United States Life Assurance Company, who found albumen in 11 per cent. of applicants; whilst, on the other hand, Dr. Cranstoun Charles stated, at the British Medical Association Meeting at Leeds, that he had found it in a very much larger percentage of healthy persons. But statistics of this kind cannot properly be compared, for they depend entirely upon the methods of the individual observers; we all draw the line at a fine trace not worth noting, but what one observer records as a trace of albumen another will disregard. It is doubtless true that by very delicate tests the presence of some form of albumen in minute quantities may be shewn in a majority of healthy urines.

The time honoured method of coagulation by boiling has been mainly relied on in my own observations; the upper layer of urine nearly filling a test-tube, being heated to boiling point, and two or three drops (not more) of nitric acid being afterwards allowed to run down the side of the tube. Slight agitation dissolves a phosphatic cloud when present, and any residual cloudiness not originally present is entered as albumen. If the obscuration is very faint, or only appears after waiting for a minute or two, I have neglected it. When, on the other hand, the albumen was in quantity large enough to measure, I have estimated the percentage in Esbach's tube. In doubtful cases picric acid has been used as a confirmatory test, whilst alkaline urines have been boiled both with and without a few

drops of acetic acid. Approximately speaking, 21 of my cases showed a small trace, 37 a trace, 19 a marked cloud, 6 a dense cloud, and in 3 the albumen could be readily measured.

In seeking to classify the cases in which albumen was found, and to recognise amongst them certain clinical types, I have been impressed by the varied conditions under which it occurs, and, as I think, its varying significance.

SCHEME.

Class I.	*Albuminuria of Renal Disease* - -	8 cases.
II.	*Permanent Albuminorrhœa* - - -	1 case.
III.	*Albuminuria of Loaded Urine* - -	22 cases.
	Albuminuria of Glycosuria - - -	1 case.
IV.	*Albuminuria of Unstable Circulation (Cyclic or Postural Albuminuria)* -	20 cases.
	Albuminuria from Hepatic Disorder -	1 case.

ACCIDENTAL ALBUMINURIA :—

Class V.	*Toxic Albuminuria* - - - -	8 cases.
VI.	*Albuminuria of Strain or Shock* - -	3 cases.
VII.	*Vesical, Urethral or Vaginal Albuminuria* - - - - - -	5 cases.
VIII.	*Albuminuria of undetermined cause* -	17 cases.

I. *Albuminuria of Renal Disease.*—Eight cases. I may take first, as most easily disposed of, the cases in which albumen appeared, sometimes in large amount, sufficient to measure, associated with other signs of kidney disorder, such as deposit of pus or blood-cells, casts or renal epithelium, cardio-vascular degeneration, anæmia or œdema, with, it may be, a personal or family history of gout or kidney trouble. Eight such cases occur on my list ; it need hardly be said that it is impossible to pass such cases for acceptance by an Insurance Company, although in a few cases the conditions may be temporary, and a second examination after an interval may place them in a more favourable category. But even then great caution will be needed in dealing with them.

II. *Permanent Albuminorrhœa.*—One case. This second class of cases, supplementary to the first, is represented by a single instance only in my list, but the case is a striking one, and I may be allowed to add another which I have seen in private.

A professional man, aged 31 years, came for examination, telling me he had lately been unconditionally declined by a well known Assurance Company. I found that he had an excellent record both of family and of personal history, had never been ill since early childhood; he was ruddy, well nourished, in the active enjoyment of life, and believed himself to be perfectly well. His heart and lungs appeared to be quite sound, and the only flaw was the presence of a large quantity of albumen in the urine. A precipitate of one quarter in depth was obtained, and on a later occasion 1·2 per cent. by Esbach's tube. The urine, of which he sent me several specimens, was of sp. gr. 1015 to 1024, and presented no other abnormality; there was no organic deposit visible, nor did the amount of albumen vary at different times in the day. I could discover no cause for the albumen, and having seen him several times, I felt confidence in his candour. He was clearly uninsurable, but I thought that after a year's interval he might perhaps be taken as a life of special risk. He did not, however, apply again, being tired of companies and doctors; but I had an opportunity more than two years later of again thoroughly examining him. He had married in the interval. His general health continued apparently perfect; I ascertained also that the retinæ were healthy, whilst the urine was precisely the same, excepting that on this occasion I succeeded in discovering a fair number of small casts, mostly hyaline.

With this case I would mention that of a stout gentleman, aged 60 years, of active habits, rather a *bon vivant* in his time, whose urine has contained albumen, I believe for many years past, without apparent derangement of health. He consulted me two and a half years ago, and there was then, and on each occasion since, a dense cloud of albumen, measuring 0·6 to 1·0 per cent. by Esbach's tube; sometimes hyaline casts were found in good numbers; sp. gr. 1015 to 1023. He told me that the albumen was first discovered over seventeen years ago by a Fellow of this Society, apart from any illness, and that the urine had been tested a few times since, being found sometimes albuminous and sometimes not so. He has no increase of vascular tension. This patient went through an attack of influenza last spring, complicated by severe bronchitis—the

first time he had ever stayed in bed in his life; at the close of the attack the condition of the urine was unchanged.

These two cases show that albumen may in rare instances be discharged in considerable quantity by the kidneys during a long period of time without the ordinary signs of nephritis. It may be that progressive kidney disease will eventually come on; but many years may elapse before this occurs. When such cases are submitted to us for assurance, and, after several examinations on our part, can be confidently assigned to this class, I submit that they might be taken, if under 40 years of age, on special terms; *e.g.*, on the 10 or 20 payments system, the age also rated up a few years.[1]

III. *Albumen of Loaded Urine.*—Twenty-two cases. I pass on to a third class of albuminurics, those in which the albumen occurs in concentrated urines, and is associated with crystals of uric acid or of oxalate of lime. A young gentleman, aged 21 years, presented himself for examination. There was a history of several attacks of paroxysmal pain in one loin. I found his general health excellent, but a cloud of albumen and some blood discs in the urine, with large oxalate crystals. He was remitted for treatment, and a few weeks later had quite lost his oxalates and his albumen. I have seen other cases in which abundant uric acid crystals appeared to play a like part. Instances of this condition in a lesser degree are very common; 22 such cases are noted on my list. In these I found the urine concentrated, the specific gravity ranging over 1020 up to nearly 1040, with excess of acidity and of pigment matters, and generally depositing some oxalate or uric acid crystals. In urines of this description it is in my experience usual to find a trace of albumen, sometimes more than a trace. And in several instances I have observed the albumen to disappear when the urine becomes less concentrated.

Such concentrated urine is very common in confined city life; perhaps especially in persons with gouty family histories;

Dr. Rabagliati, of Bradford, in a paper on this subject, reprinted from the *Provincial Medical Journal* for December, 1889, has discussed the value of these lives for assurance, and proposes the estimation of all slight uncomplicated albuminuric cases as if we expected death to occur at 57 years of age; this would practically be prohibitory at an age over 40.

but generally where muscular and lung exercise do not bear their proper relation to ingestion of food. The albumen may perhaps be due to irritation of kidney structure by the acid matters, or even in some cases to the mechanical irritation of crystals contained in the urine. But whatever the cause, we must, I think, recognise the class as a common one, and one to be regarded from an insurance point of view as of comparatively lesser importance. Where the albumen is more than a mere trace, or the crystals are large or numerous, I should refer the case for treatment by diluents and alteratives; otherwise, and in the entire absence of other defects, the life-risk is not, in my judgment, materially increased.

In connection with this class may be mentioned the *Albuminuria of Glycosuria*. One such case came for examination, but was rejected on account of the presence of much sugar. In my experience albumen is commonly found in glycosuric cases, and is, I suppose, to be attributed to irritation of the kidney by the sugar.

IV. *Albuminuria of Unstable Circulation*.—Twenty cases. The fourth class is also a large and important one. It consists of those in whose urines a trace or thin cloud of albumen is present, without necessarily any concentrated condition of the secretion, but coincident with circulatory disturbance. These persons have unstable circulations, their hearts are excitable, the apex beat is generally low, the impulse exaggerated whilst under examination, the action rapid, and often there is a hæmic systolic bruit heard at the left edge of the sternum, or at the cardiac apex itself. The urine is often deficient in acidity. The circulatory apparatus of such men seems to be loosely built, and probably there are variations of blood tension, both general and local; the pulse is often compressible. Twenty such cases belong to my list. In two or three, attacks of partial syncope came on during examination. I have come to regard the presence of a trace of albumen in these cases as hardly increasing the risk of the life. On account of the heart condition, the more marked instances in this class will need rating up or even rejecting, but the trace of albumen, which is almost constantly found with such hearts, is not, I think, of importance.

In at least five cases of this class I obtained one or more further specimens of the urine, and ascertained that the albumen was not present, or in scarcely appreciable quantity, in the urine passed on rising in the morning. The same statement applies in at least three instances of the last class, that of loaded and concentrated urines. These cases then belong to the category of "functional," "*cyclic*" or *postural Albuminuria*, which was described by Dr. Pavy in 1885,[2] and which is characterised by the appearance of albumen in the first half of the working day, declining towards night. In four of my cases the evening urine was tested and found either free or with diminished albumen. Strictly, as Dr. Pavy has pointed out, the term functional (if used) applies to a larger class, including others besides the cyclic cases. The circulatory conditions in many instances of this form of albuminuria have been already pointed out by Dr. Maguire[3] and others. Functional albuminuria, if we may use this convenient phrase to describe the cases of albuminuria without definite kidney disorder which so commonly come before us, appears to me to consist mainly of the two classes just described, viz: (1) of loaded acid urines tending to deposit oxalates or uric acid, and (2) of unstable circulation and varying tension; and in both these classes, especially the latter, the albuminuria is often cyclic or postural.

Albuminuria of Adolescence was described by Dr. Moxon,[4] and attributed to the practice of certain bad habits. Such habits tend to produce in many subjects palpitation and circulatory instability, and probably in this way cause the albuminuria; but it may be doubted whether this cause accounts for more than a comparatively small proportion of the class referred to.

Albuminuria from Hepatic Disorder.—One case (?). A retired Indian officer with old liver damage, shewed a small trace of

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[2] See *Lancet*, 1885, vol. ii., p. 706; also *Brit. Med. Jour.*, 1889, vol. ii., p. 417; and compare Dr. G. Johnson's papers in *Lancet*, 1888, vol. i., p. 7, and *Brit. Med. Jour.*, 1889, vol. i., p. 225, and vol. ii., p. 419.

[3] *Brit. Med. Journ.*, 1889, vol. ii., p. 421.

[4] *Guy's Hospital Reports*, 1878.

albumen in the urine, for which no other cause could be found. The case, perhaps, belongs to the uncommon class of albuminuria from hepatic disease, alluded to by Dr. Dickinson.[5]

Accidental Albuminuria.

I pass to a further division of the subject, to those instances in which albumen appears in the urine from accidental causes, transient in their operation, and having little bearing on the prognosis of life. It is, I think, important to have these accidental causes well in mind in order that we may be able to eliminate them in insurance examinations.

V. *Toxic Albuminuria.*—Eight cases. First of these causes, and forming the fifth class, come all cases connected with the use of articles of food, drugs or poisons.

(1). A healthy man of 35 came before me a few days ago, having a decided trace of albumen in his urine. This was neither concentrated nor over acid; there was no disturbed cardiac action, nor any other cause apparent. But on questioning him, I learned that he had taken shortly before seeing me a meal of three eggs, to which he was quite unaccustomed. The urine passed early next morning was quite free from albumen, and I have no doubt that the special albuminous diet was the cause of its presence on the previous day.

(2). Three tea-tasters appear on my notes as showing traces of albumen, in each case after a morning spent in tasting fifty, a hundred, or more samples of tea. In two cases I was able to ascertain that the early morning urine was practically free from albumen.

(3). A robust young man, aged 24, an athlete, shewed a marked trace of albumen in his urine. This was, perhaps, urethral in origin, as he had had gonorrhœa, but he himself ascribed it to a seidlitz dose taken the day before, in preparation for a swimming match. And he told me that the clerks in a certain leading bank in London, when they want a holiday, take a stiff seidlitz, followed by a glass of brown sherry in the afternoon, and then go before the doctor to be invalided for disordered kidneys!

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[5] *Path. and Treat. of Albuminuria*, p. 16.

(4). A manufacturer, aged 29, apparently in very good health, voided urine showing a marked cloud of albumen on boiling. Nothing appeared to throw light on its causation, excepting that he had at the time a headache from exposure to the fumes of a new stove in his office. The urine early next morning was free.

(5). Several cases have come before me which suggested the direct action of alcohol in producing albuminuria. Some may, perhaps, be properly referred to the heading of "hepatic albuminuria."

VI. *Albuminuria of Strain or Shock.*—Three cases. Severe muscular exercise, or brain exercise, as at examinations, or the shock of cold to the surface in bathing, are here the factors. I have illustrations of the first only. I went down to the country, some years ago, to examine a father and two sons for life assurance. The family was a healthy one, given to outdoor exercise, and I found them all playing cricket. It was a warm summer's afternoon, and they came in perspiring freely. I obtained a specimen of the urine of each, and found them almost, but not quite, identical: the urine was concentrated, sp. gr. 1025-6, depositing copious urates, and albuminous to distinct cloudiness. Dr. Pavy's observation of the urine of Weston, the pedestrian, belongs to this category.

VII. *Vesical, Urethral and Vaginal Albuminuria.*—Five cases, probably more. This class is of importance, for it is apt to vitiate our diagnosis in life assurance cases. It comprises all cases in which albumen is derived from other parts of the genito-urinary tract than the kidney. The albumen may be due to slight catarrh of the mucous membrane of the bladder or ureter, or of the urethra, as in gleet, or in women, to leucorrhœa. It is not easy to bring forward actual proof of these statements from insurance cases, but cases which I have observed in private have convinced me of their truth, and of the frequency of such occurrences. In bladder catarrh, mucus and mucus corpuscles will be in excess; in gleet and leucorrhœa, squamous epithelium is abundant. Two or three cases of apparent vesical albuminuria were complicated by signs or suspicions of kidney disorder, and so were placed in a former class. In two cases of young men, known to have suffered from

gonorrhœa, the urine showed marked traces of albumen, not otherwise explained, and other suspicious instances occurred. The great frequency of leucorrhœa, much or little, renders it difficult to obtain reliable results as to albuminuria in women; I seldom examine female urine without finding at least a trace of albumen present; it occurred in both the cases examined for insurance, attended with a good deal of squamous epithelium. I have several times seen the squamous cells densely studded with opaque granules, probably uratic, in women with a gouty family history.

VIII. *Albuminuria of undetermined cause*, chiefly small traces.—Seventeen cases. Seeing an applicant commonly on a single occasion only, we have sometimes no sufficient evidence to refer the case to any one of the classes described; and rather than do any violence to facts, one must enter the albuminuria as uncertain in origin. Probably nearly all these cases could be referred with fuller information to one of the above classes, and, in the case of young men, I suspect that a very slight urethral catarrh is often the cause.

As regards Classes V., VI. and VII.—Accidental Albuminuria—when the source of the albumen has been determined, there is, I think, in the majority of cases, nothing to hinder the recommendation of the life. Bladder catarrh, or any other definite disorder, would, of course, necessitate delay and a re-examination. When the albumen in Classes V. and VI. is more than a trace, or the accidental cause is very slight, there is evidently an undue readiness on the part of the kidney to pass albumen, and this, taken in connection with other circumstances in individual cases, may lead us to rate up such lives a few years. When a very small trace of albumen is unexplained, and all other elements in the life are perfectly sound, it need be, I think, no obstacle in our report; but it would have weight if other points were doubtful.

Dr. Pavy had listened with pleasure and interest to the paper, which had been prepared with great care, and which had been placed before them with aptitude and facility. It was a large subject, which presented more anomalies the more it was studied. As to the first heading which had been referred to—the albuminuria of true renal disease; it was true that we could have albuminuria without renal disease, we could have renal disease without albuminuria, and taking it in its extended signification, we could have Bright's disease without either albuminuria or casts. In other

cases, again, there might be every evidence of Bright's disease with albumen in the urine and no casts, while in other cases there might be the symptoms of Bright's disease with no albumen, but casts might be present. He referred to a case which illustrated one of these types—namely, the presence of the constitutional indications of Bright's disease without either albumen or casts. The patient was brought to him six or eight months ago. He had applied first to the Ophthalmic Hospital, and it was remarkable how many cases of Bright's disease found their first indication of mischief in the eyes. He had double retinitis, and the cardio-vascular condition of Bright's disease was present. There was in addition an excessive flow of urine of low specific gravity, and the case would be considered as one of polyuria approaching to diabetes insipidus, if the condition of the urine alone had been considered; it contained no albumen and no casts. With regard to the group of cases marked permanent albuminorrhœa, he desired to narrate a case in point. It was that of a medical man who practised in a sea-coast town in Sussex, who happened to come to consult him about a case of albuminuria, and he mentioned that for years he himself had had albumen in his urine, although he had no indication of failing health. There was no appreciable difference to be found in the quantity of albumen which was passed at any time in the 24 hours, and the case was, therefore, not one of cyclic albuminuria. As for the cases placed under the group of "loaded urine," he was bound to confess that he did not look upon this variety of urine with the same terror as some people did. He did not think that the kidney was so easily susceptible of irritation, and it should be remembered that the deposition of crystals did not, as a rule, take place within the body; the urine at the time of secretion being simply a clear fluid. Ladies, for reasons of convenience, often took but little to drink, and they would after this pass very loaded urine, but he did not see why such a secretion should be looked upon as especially irritating. Oxalate of lime and uric acid were usually only deposited afterwards, and, therefore, if they were in solution at the time of secretion, he could not see that the patient would suffer therefrom. With regard to cyclic albuminuria, he had had a very considerable experience, and in these cases everything hinged on an accurate diagnosis. He was a true believer in functional albuminuria, and his experience was that it did not lead on to structural disease. These cases of cyclic albuminuria formed a curious group, being associated with the position of the body; the early morning urine being free from albumen, which appeared either in the forenoon or was delayed to the afternoon; if it appeared in the forenoon, it usually subsided in the afternoon, and was quite gone at bedtime: this was the usual course. In these cases an alteration in the mode of life would also alter the period of albumen elimination. In examining cases of this kind, he was accustomed to ask for four specimens of the urine—one on rising in the morning, one passed at noon, one at 6 p.m., and one at bedtime; in order to make sure, it was as well to examine a fifth on rising the next morning. In one patient he found a copious quantity of albumen in the urine in the morning, and this led him to inquire of the patient if he had got up in the night. "Yes," replied the patient, "I got up and went to the closet, and later returned to bed." Dr. Coupland, in an interesting series of cases published from the Middlesex Hospital, shewed that when the patients were in bed during the day the cyclic character was altered. Dr. Hingston Fox had graphically described the physical condition of these patients; they were of a movable disposition, with a quick pulse and irritable heart, with a sharp smacking impulse, and an excitable state of the circulation. The condition might continue day after day, and week after week, even year after year, and then gradually wear out. To keep them in bed was

the worst possible practice. These cases could not be accepted for life insurance under ordinary conditions at a first examination; they required investigation. He referred to the case of a youth, aged 17 or 18, who had been in perfect health and who was a good athlete. He entered for the Civil Service examination and passed creditably; after this he had to undergo a physical examination, and albumen being found in the urine, he was rejected. On examination, the case was found to belong to the cyclic class. He was allowed to go up for examination again the following year, and then also the urine was found to be albuminous, but four days later happening to be clear he was passed. Later on he studied in Oxford and Cambridge, and attended the police courts, and then, at a final physical examination before going to India, his urine was found again albuminous. But during this time he had studied some physiology, and had read something of the literature of these cyclic cases, and the next time he presented himself for physical examination he kept in bed until just before going in to be examined, and he was passed, as there was then no albumen in the urine. In life insurance these cases required very careful consideration. One had to decide whether the condition was functional or associated with actual structural disease, and it required a much more guarded examination than in the case of patients in the ordinary run of practice, who had no object in attempting to deceive. Albuminuria was often seen associated with glycosuria, but as the patient got better of the glycosuria under treatment, it was a common occurrence to notice that the albumen either disappeared, or was reduced to a very small quantity. He did not think that this variety of albuminuria led to Bright's disease, although the latter indeed sometimes occurred on the top of diabetes. As regards casts, he had at the present time in his consulting room a urine containing casts which were of seminal origin, and were dependent on a discharge from the testes, and this possible origin of casts should always be remembered in these cases.

Sir William Roberts said that the subject under discussion was at present attracting the interest of medical men. There was a time, now happily past, when albumen in the urine was almost regarded as equivalent to the signature of a death-warrant; but now, on the other hand, albuminuria found a great many apologists. He himself sympathised fully with Dr. Pavy's remarks concerning "loaded urine"; but it should be remembered that in some of these cases it was possible that actual gravel might be present, and by irritation cause a physical albuminuria. As to the albuminuria of strain and shock, and of undetermined origin, was there not possibly a trace of albumen to be found in the urine physiologically? He believed that this not infrequently occurred. Some years ago he used the phrase "physiological albuminuria" in a debate in Glasgow, and he had been much taken to task for it. He ventured, however, still to adhere to his idea that it was a correct expression. These cases of "physiological albuminuria" were only occasional or accidental, and were not permanent or cyclical. We were too much in the habit of regarding the physiological limit as a hard and fast line; it was probably much more correctly to be regarded as a range. A child would run a race, and come back panting and with a thumping heart—was such an instance as this to be considered as outside the physiological range? and yet without the exercise preceding it, it would be regarded as indicative of a serious state of disease. The urine might vary in specific gravity from 1004 to 1040 within physiological limits, and the flow might be eighty times greater at one time than at an another; all within the physiological range. Albumen might appear after food or after exercise. It was frequent after a very heavy meal—this he could confirm from special observation. Was a heavy meal

an unphysiological condition? He thought not. It was within the physiological range. After a sharp effort of exercise a little albumen could often be found in the urine; the same after the application of cold baths; both cases were equally within the physiological range. Then it should be remembered that our tests for albumen were by no means transcendental, and the proof of this could be demonstrated as follows:—If one took three drops of a very highly albuminous urine and added them to a pint of ordinary urine, one was sure that there was albumen, though in small quantity, in the mixture, and yet none of the ordinary tests would detect it. The facts he had quoted above made him feel that there was much to be said in favour of the existence of a genuine transient physiological albuminuria. As for albuminuria in its relation to life insurance, he felt that each case should be specially investigated. One of the best methods of investigating the subject was to differentiate the varieties of albuminuria into categories, as Dr. Fox had done, and when a further division was attempted he hoped that space would be found for physiological albuminuria.

Mr. Clement Lucas said that the subject of the prognostic significance of albuminuria was not only of importance in relation to life insurance, but also in its application to surgical cases. The cases of functional or cyclic albuminuria were, he felt convinced, of the same nature as those cases to which the late Dr. Moxon had drawn attention under the title of "albuminuria of adolescence," the albuminuria being transient, not found in the morning and increasing towards the middle of the day. Dr. Moxon had also given a correct interpretation of the cases, though it was wrapped up in his usual circuitous and delicate fashion. Mr. Lucas referred to a certain number of boys amongst his out-patients who came complaining of weak ankles and knees, and who were ricketty, with but little enlargement of their epiphyses. He had described them in the *Lancet*. They were usually pale, with dilated pupils, an irritable heart and enlarged tonsils. The ligaments usually yielded in late rickets before the epiphyses showed enlargement; there was a good deal of albumen in the urine. There was no doubt that the cause of this albuminuria was that which had been darkly suggested by Dr. Moxon—the practice of immoral habits. In a large majority of cases they could be cured in a short space of time, and though some would relapse, the cause of this could be guessed. He doubted whether such cases of albuminuria could be regarded as so trivial that for life insurance purposes they could be neglected. The cases he had related formed part of a large class which had been clearly marked out by Dr. Pavy. A considerable majority of them would get well if they married, but some might go on to degenerative renal changes. A boy, aged 15, was brought to him in consultation. He complained of dimness of sight after breakfast, followed by sickness and headache. He examined the urine, and found a considerable quantity of albumen. The heart was irritable, the tonsils large, and the pupils dilated. The boy confessed to masturbation, and no treatment beyond a paternal lecture was administered. The albuminuria entirely disappeared within a few weeks. But when he was 20 years of age he was brought back again, as he had again broken down. It was interesting to observe that there was a history of albuminuria in the family, the grandfather and one uncle having suffered from it. Possibly the diathesis, coupled with the exciting cause, might have led to the derangement. In connection with albuminuria and life insurance, it should be remembered that many patients came to insure because they were about to get married, and the excitement incidental to this might cause the albuminuria. He quoted an instance. A patient, aged 34, was rejected for life insurance in August last on account of albuminuria, which appeared to be largely due to sexual

excitement. After his marriage the urine was found to be entirely free from albumen. He related a further case of a man, 52 years of age, who applied at a life office during the first week of April, and was rejected on account of albuminuria. By July scarcely a trace of albumen could be found in the urine. On close questioning, it was elicited that he had a definite exposure to cold in March, and after that he was in bed with what he called lumbago, but which was probably an attack of acute Bright's disease.

Dr. Maguire said that Dr. Fox had alluded to the method of detecting albumen in the urine, and Sir William Roberts had said that our tests were not sufficiently delicate to detect albumen in some cases. But on the other hand, it should be remembered that the "fancy" tests were extremely liable to lead observers into error. The boiling test properly carried out was delicate, but it was not reliable, for it was subject to a large number of fallacies. He had found that the mixture of a saturated solution of sulphate of magnesium with nitric acid, introduced years ago by Sir William Roberts, was delicate, rapid, and reliable. Referring to the subject of albuminuria and life insurance, he said that no one with albuminuria and obviously bad health would receive attention at a life office; the point, therefore, which remained for consideration was the significance of albuminuria in the comparatively healthy. Though he admitted fully the force of Sir William Roberts's remarks concerning physiological albuminuria, yet he thought that, as a rule, when albumen was found by our ordinary tests the case was not a normal one, and the fault would be usually found in the circulatory apparatus. The cases might be divided into those which had an abnormally low, and those which had an abnormally high, arterial tension. Cases of the first group were those which had been alluded to by most speakers; young men who were weak and "slack," with poor digestion and little energy, a feeble circulation and a low tension pulse. Dr. Broadbent had shown that they might present a temporary high tension, a "virtual tension pulse," but this was probably accidental. These cases often presented the typical cyclic albuminuria, and it would also be found in cases of acute Bright's disease, when the patients were allowed to get up too early. The condition was due to stagnation of blood in the capillaries of the kidneys. They recovered if properly treated, and might be taken by insurance offices at ordinary risks, without special reference to the albuminuria. The cases with high arterial tension might occur at any age, and it might be only a temporary albuminuria. He referred to a young man who had been in training for a Civil Service examination; at the physical examination he was referred back for six weeks on account of albuminuria. He had a hard radial artery and a forcible heart-beat. Under mercurial purges and alkalies he recovered. The cause appeared to be that he had celebrated his success by repeated libations of porter, champagne and chartreuse! Cases of temporary albuminuria associated with high tension might occur in older people, and could be relieved by the same treatment. In considering their claims for insurance, it should be remembered that the albuminuria was often due to indulgences which were prone to be repeated, and that there was often a family tendency to the disease. If they were young they might perhaps be taken with slight rating up; but if they were old they had better be left alone. His first class would include the cases which were associated with bad habits, while the toxic cases would come under the heading of high arterial tension. As to albuminuria from eating eggs, the albumen which appeared in the urine was not egg albumen, but was simply ordinary albumen, such as would be found after an excess of nitrogenous diet. He had tried to produce albuminuria in himself in this way, but he had failed. He was of opinion

that the cases in which globulin only was found were not so serious as those in which the globulin formed only a small proportion to the serum albumen present. In conclusion, he said he would advocate that low tension cases should be insured at rates independent of their albuminuria, while those with high tension, if old, should not be insured, but if young, might be taken at an extra rate.

The President thought that the discussion had been a most valuable one, on a subject of great practical importance. The question really raised was the prognosis of albuminuria in its widest sense. We were gradually learning to differentiate these cases, and though we were unable at present to arrive at precise general conclusions, they were gradually being brought into categories. He agreed that the majority of cases of albuminuria in young adults were due to masturbation, and the subjects were feeble and slack; it was of importance to press this cause home on the patients, and thus save them from future mischief. He knew of a case in which albuminuria had persisted through childhood to youth and middle life in association with good general health. Though we had not reached finality in this subject, we should be content to continue to learn, using the knowledge already attained as a *point d'appui* for future work.

Dr. Fox briefly replied.

A Meeting was held on December 9th, 1891 (Pathological Evening). Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. Patrick C. Scott and Messrs. Frederick Bass and Alfred Chune Fletcher were nominated for election, and Dr. C. T. Aveling and Mr. C. T. W. Hirsch were elected, as Ordinary Fellows of the Society.

Dr. F. Charlewood Turner shewed specimens from a case of "*Endocarditis.*" A brewer's labourer, aged 45 years, was suddenly attacked by left hemiplegia without loss of consciousness, evidently from embolism. Six weeks later fatal apoplexy ensued from hæmorrhage into the left side of the brain. The heart and brain were now exhibited, the former shewing much enlargement, regurgitation through the aortic orifice, fibrous thickening and ulceration of the aortic valve, with fibrinous masses attached, and an ulcer in the adjacent part of the ventricular wall. The brain shewed white softening in the right hemisphere, from plugging of the middle cerebral artery, and a recent clot of blood outside the left corpus striatum, between it and the convolutions. Dr. Turner thought the cardiac ulceration was probably due to fibrinous thrombi abrading the wall of the ventricle; an abscess being formed and bursting,—what was termed an acute aneurysm of the heart.

The site of the cerebral hæmorrhage was unusual; it was commonly either on the surface of the brain or within the central ganglia. Its causation was possibly by distension and rupture of an artery plugged by an embolon, but possibly by thrombosis. Dr. Goodhart had shown specimens before the Pathological Society (Transactions, vol. xxviii.) of cerebral hæmorrhage in endocarditis, and attributed the occurrence to aneurysm from embola. But in none of these cases were embolisms or aneurysms definitely found at the seat of the hæmorrhages, only suppurating thrombi; though there were saccular aneurysms elsewhere. Dr. Turner thought the causation of such cases was open to question, and inclined to the hypothesis of simple thrombosis.

Mr. Clement Lucas suggested that the hæmorrhage in the left hemisphere might have been due to the increased strain on the vessels, caused by the plugging on the right side.

The President thought this would prove too much, for such a result was far from common. Cases of ulcerative endocarditis varied greatly: some were malignant and rapid, like typhoid fever; others went on for months, in a chronic way, without the acute septic features.

Dr. Fred. J. Smith queried whether the mass in the left hemisphere were not an area of acute softening rather than a coagulum; it formed a rounded tumour, unlike the ragged hæmorrhagic masses seen.

Dr. James Galloway referred to a case of his own, in which a child died of acute rheumatism, and an abscess was found in the inter-ventricular wall, which broke in handling the heart; had it ruptured during life, a communication between the ventricles would probably have been formed. He ascribed the abscess to embolism of the coronary artery. Right-sided septic endocarditis was, he thought, more common than was supposed, and especially so in young persons.

Dr. Turner, in reply, said that when cerebral hæmorrhage occurred from degenerated arteries, the rule was that it was into the central ganglia. But in youngish people, in whom, as in this case, the arteries were healthy, and the hæmorrhage was due to endocarditis, its site was not so limited. His suggestion was that the blood came from a meningeal branch of the artery, deep down in a sulcus, where the direction of least resistance would be towards the soft brain tissue, and here accordingly the blood was effused. The mass when recent had all the aspect of a blood-clot.

Dr. Fred. J. Smith exhibited a specimen of "*Ruptured Aortic Valve.*" W. S., a blacksmith, aged 52 years, of somewhat intemperate habits, came to the out-patient room one Saturday. He complained of severe pain in the chest and great shortness of breath, both of which had come on quite suddenly on the previous Monday whilst at work. He denied having ever had either syphilis or rheumatism, and stated that he was and had

been perfectly well up to the time of the onset of the pain. On examination, the only indication of disease was a very loud, usually rough but occasionally musical, double aortic bruit. He was advised to come into hospital, but declined, and died somewhat suddenly on the following Monday. At the necropsy (by order of the Coroner) all the organs were found comparatively healthy, excepting the heart; this was about the normal size. All the valves were healthy, except the aortic, which showed one cusp completely torn through at its attachment to the aorta. There was also evidence of old atheromatous change in the valve and the adjacent part of the aorta; the musculature showed no naked-eye morbid change. Dr. Smith remarked that the case was of no great rarity, but its rapid course without absolutely sudden death was unusual. Probably there was no case on record of a healthy valve rupturing.

The President adverted to a case now under his care in the London Hospital, in which he had diagnosed rupture of one of the chordæ tendineæ. The patient was a young man of healthy history; he had obtained a prize for swimming under water. He was struck on the chest, from which time he suffered from palpitation, pain, and dyspnœa, and had a well-marked systolic murmur; pulse 120. He had much improved under treatment of rest and digitalis; no palpitation now. Were the edges of the valve blood-stained in Dr. Smith's case?

Dr. Turner asked whether the valve had been ulcerated; the tear was very ragged.

Mr. Openshaw thought the valve was malformed or altered; there did not seem to be three cusps present.

Dr. Smith, in reply, said that, not having himself made the post-mortem examination, he could not say as to the condition of the part when fresh, but there were no signs of acute ulceration, simply old atheroma, which had deformed the valve; he thought the part ruptured was a combination of two cusps.

Dr. Arthur T. Davies shewed specimens from a case of "*Tuberculosis of the Urinary Organs, Suprarenal Bodies and Lungs*, with the usual symptoms of *Addison's Disease*." A woman, aged 39 years, married, 11 children; had complained for three or four months of progressive weakness, emaciation, and pigmentation of the skin, with occasional morning sickness. Incontinence of urine had troubled her for six years. On admission to hospital, the entire skin was of a yellowish-brown hue (bronzed), being darker about the neck, axillæ, nipples, pubes and linea alba, where it was of a dirty-brown colour.

There was no marked pigmentation of the buccal mucous membrane. Slight exophthalmos was present but not Von Graefe's sign. Nothing was discovered in the lungs or heart; spleen slightly enlarged. The urine was acid, s. g. 1010; a slight deposit of pus. She became rapidly weaker, the pigmentation increased, temperature varied between 99° and 102° F., drowsiness supervened, and she died comatose ten days after admission. At the necropsy the following changes were found. Both suprarenal bodies were enlarged, especially the right, and contained tubercular growth, most of which had undergone fibroid change; numerous giant cells were observed. The left kidney was reduced to a caseous mass. The right kidney was hydronephrotic, and the ureter dilated. The bladder was extremely contracted, and could not have held more than one ounce of urine; its walls were thick and affected with old-standing tubercle. At the apex of each lung was a small patch of old tubercle, fibrous on the right, caseous on the left side; no recent tubercle was found. The spleen was enlarged, weighing 12 oz. No tubercle in brain, liver or intestine. The semi-lunar ganglia were apparently atrophied. Dr. Davies remarked on the rapidity with which the symptoms developed, and on the extensive tubercular disease of the left kidney and bladder—the latter accounting for the incontinence. Could this case be regarded as a true instance of Addison's disease? Authorities seemed to be divided; Dr. Wilks maintaining that Addison's disease was not tubercular, and that cases in which well-marked tubercle was found in other organs were exceptional. Virchow and Rindfleisch however described the disease as a tuberculosis. Dr. Greenhow, in the Pathological Society's Transactions, tabulated a number of cases, and made one class for those in which general tuberculosis was present.

Dr. Fred. J. Smith regretted that the bacillus had not been systematically hunted for in these cases. In eight or ten patients with Addison's disease whom he had examined after death, he had in most of them found caseous masses and abscesses; in one case extending from the suprarenal body to the adjacent kidney. His own opinion accorded with Fagge, that the disease was simply tuberculosis of the suprarenal body.

The President said that Addison himself did not leave the subject well defined. Dr. Wilks, who succeeded him, followed it out, and laid down the process as a non-tubercular one. He (the President) had specimens preserved, and his own experience led him to believe that the disease was tubercular, and commonly of a slow chronic type.

Dr. Wightwick read notes of a case of "*Recurrent Papillary Sarcoma of the Toe, with numerous Secondary Growths.*" A married man, aged 28 years, came under care in an emaciated dying condition, with numerous secondary growths scattered widely in the subcutaneous tissue, especially of the abdomen and chest, and extensive involvement of lymphatic glands. On the great toe was a small recurrent papillary growth, $\frac{5}{8}$-inch in diameter, pale in colour, and with no sign of ulceration. Thirteen months previously Dr. Johnson Smith of the Seamen's Hospital had removed several small pale hard warty growths, with some of the surrounding skin, from the toe; one of them slightly ulcerated, apparently from pressure of the boot. The wound healed well, and the growths were diagnosed as simple papilloma, although the femoral glands were slightly enlarged and indurated. The family history on the paternal side shewed a marked tendency to malignant disease; his grandfather died at 60 of cancer of the cheek, one uncle at 40 with (cancerous) lumps all over his body, an aunt of cancer of the breast, and a second, aged 60, of cancer of the œsophagus (?).

Mr. John Poland, who had seen the case, described the post-mortem appearances, and exhibited *microscopical sections* of both recurrent and secondary growths. The lymphatic glands in the loin, abdomen, neck, &c., the lungs, kidneys, suprarenals, liver, mesentery, and peritoneum were full of growth. There were numerous subcutaneous nodules scattered over the abdomen and lower part of the chest, as well as nodules in one of the papillary muscles of the right ventricle, in the mitral valve, and in the pectoral muscles. The end of one rib was the only bone seen by the naked eye to contain any growth. In the recent condition many of the growths shewed on section small reddish masses looking like pigment, but really due to extravasated blood. The microscopical structure was almost precisely that found in melanotic sarcoma of the skin, without however any evidence of pigmentation, the cells for the most part being of the large round variety. But in the growth on the toe, the cells were more mixed, many of them tailed. In certain places the cells were closely packed together with little matrix discernible, giving an alveolar appearance, and to the cells a polygonal shape. Ranvier described this form of sarcoma of the skin.

Dr. F. J. Smith asked whether the patient had had dysentery or ague. How was it that a simple papilloma should, at that early age, take on malignant action? Warts were common enough, *e.g.*, on the hands of children or of milk-maids, but a connecting link was needed between them and malignant growth.

Dr. Jas. Galloway alluded to a Hebrew patient, of 40-50 years, long in the London Hospital, with small areæ of sarcomatous growth in the subcutaneous tissue, raising up the epithelium of the skin, and giving the appearance of papillary masses. Cases with secondary growths had been recorded by Russian observers, but not of so rapid or malignant a character.

Mr. Openshaw suggested that the original growth was a sarcoma, not the whole of which was removed, the secondary deposits being round-celled sarcomata.

Mr. Rivington enquired whether the masses cut with a concave or a convex section, and remarked on the various types of cells present.

The President said that the case referred to by Dr. Galloway had again come into hospital. It might be termed, Sarcoma cutis idiopathicum multiplex pigmentosum acutum, of Kaposi. In another case, of doubtful diagnosis, operation was declined by the patient, and the mass was softened by soaking in diluted Liq. Potassæ and then removed; it had recurred occasionally since. In a patient of Dr. Sansom's, with idiopathic anæmia, who had taken much arsenic, great numbers of tumours developed in the skin, and proved to be round-celled sarcomata or lymphadenomata. It was a question whether papillary growths, which were epithelial, ever became malignant. Might not the present case be true sarcoma, of alveolar type, from the connective tissue element in the papillæ? Why was the term melanotic used in connection with it?

Dr. Wightwick, in reply, said that the man was previously healthy.

Mr. Poland added that he considered that the growths were sarcomatous from the commencement. He would not class them as melanotic, but in the locality, history, and development they resembled melanotic disease.

The President shewed a specimen of "*Exfoliative Dermatitis*"; a cuticular glove, obtained from a gentleman, aged 50 years, and presented to the London Hospital Museum by Mr. Gooch in 1769 (see Gooch's Medical Transactions for that year). For ten years, regularly twice a year, about spring and autumn, the patient had shed the skin of the hands and feet, and was frequently able to peel the skin from the hands in the same form as the specimen—forming a complete glove. Before the exfoliation, the parts became painful, red and tender, and it was accompanied by itching, and an eruption of "red spots." A case had lately been published by Drs. Frank and Sanford, of Chicago, in the American "Journal of Medical Sciences" for August, in which for 33 years the patient had shed his skin "on July 24th of every year." Pyrexia attended the process, which now lasted ten or twelve days, instead of five as formerly. The cuticle of the hands and feet were shed entire; the nails subsequently came off. The subject was of interest in connection with the recent epidemic of exfoliative dermatitis at the Paddington and St. Marylebone Infirmaries (see Medical Society's Transactions, vol. xv.). A specimen of sheddings from a fatal case at the former Infirmary was now shown.

Mr. Charters J. Symonds exhibited a specimen of "*Phosphorus Necrosis of the Jaw*," the large sequestrum comprising nearly

the whole of the lower maxilla; it had been removed, as advised by Mr. Hutchinson, without waiting for it to become loose. The disease was arrested, new bone was formed, and mastication with the remaining two teeth was carried on.

A Meeting was held on January 13th, 1892. Dr. STEPHEN MACKENZIE, President, in the Chair.

Mr. W. M'Culloch Ettles was elected an Ordinary Fellow of the Society.

Dr. Patrick Manson read a paper "*On a method of Operating on Abscess of the Liver*"; designed to facilitate the early opening of all kinds of liver abscess, more especially those that are deep-seated and on the upper part of the organ; to secure immunity from hæmorrhage, and from the escape of pus into the peritoneal cavity; and to make the opening of deep-seated hepatic abscess a less formidable procedure than it has hitherto been. After the presence of pus has been ascertained by the aspirator, a trocar and cannula are employed to enter the abscess cavity. The trocar is then withdrawn, and through the cannula a half-inch drainage-tube, so stretched on a long steel stilette as to pass easily, is pushed on till it is brought up by the solid liver tissue at the far side of the abscess. The cannula is now withdrawn, and over the stilette and drainage-tube remaining in the wound an antiseptic dressing, mounted on a suitable silver shield, is passed, and retained in close apposition to the surface by means of a disc of adhesive plaster-skin and two flannel binders. The free end of the stilette is then forced through the free end of the drainage-tube and, the stilette being firmly held in position, the drainage-tube is allowed to resile towards the back of the abscess. As it resiles the tube expands, and effectually plugs the wound and bridges the peritoneum. The redundant piece of drainage-tube is now cut off, and by means of a suitable arrangement the drainage-tube, and through it the cavity of the abscess, is connected with a siphon and reservoir into which the pus drains freely. After a few days the siphon is discarded, and an ordinary

antiseptic dressing substituted. This operation is well adapted for certain other forms of abscess—empyema, lung abscess, &c., as well as for abscess of the liver. It is claimed for it that it is very successful, and that it is almost as easily performed as the tapping of a hydrocele; an important matter in those countries in which abscess of the liver usually occurs, and where, it is to be presumed, only a small proportion of practitioners have special experience in abdominal or thoracic surgery. [See *British Medical Journal*, *1892*, vol. i., p. 163.]

Dr. Fred. J. Smith asked whether any special care was exercised to avoid wounding the peritoneum. Presuming that two layers of this membrane were punctured, he would think there was risk of pus escaping into the peritoneal cavity by the side of the tube. He referred to a case of empyema, in which, after aspiration, efficient suction was maintained by means of a stream of water passing through the head of a T-piece, the drainage-tube communicating with the tail of the T. Would the liver bear such suction well?

Mr. J. Poland explained and illustrated his friend Dr. Walter Edmunds' method for detecting and opening obscure liver abscess. After puncturing by the aspirator, and removing the trocar, he passed through the cannula a guide into the abscess cavity; by moving this in different directions he was able to tell the extent of the cavity. The cannula was then removed, and a small clamp applied to secure the guide. A small knife was then passed down into the liver substance along the guide, and on the latter a dilator, producing a good opening into the abscess, into which a drainage-tube could easily be passed. Mr. Poland had had the opportunity of using the method in a case of dead hydatid abscess, at the upper part of the liver; the peritoneal cavity was afterwards freely opened, and the opening stuffed with iodoform gauze. The hydatid was opened by a free incision on the third day and evacuated.

Mr. C. J. Symonds joined in appreciation of Dr. Manson's paper. Its essential point was the new method of introducing a drainage-tube. The difficulty of getting a sufficiently large drainage-tube into your cannula was often felt in various operations. Dr. Manson's plan of overstretching a drainage-tube, and introducing it in this stretched condition, met the difficulty well; leakage was quite prevented when the tube expanded, completely filling the cavity. He had himself used a like method in introducing a rubber tube into a strictured œsophagus. Dr. Manson's operation was, he thought, characterized by simplicity. Was it, however, really impossible to reach an abscess at the upper and back part of the liver? He thought not. He had reached hydatids in that situation. In one case the needle passed through four inches of liver to reach the hydatid, and finding that the tumour was above the organ, he decided to approach it through the thorax, excising part of a rib, and cutting through pleura and diaphragm. Adhesions were formed, and four days later he opened the hydatid. After daughter and mother cysts were removed there was some protrusion of small intestine, but this was reduced, and the man did well. Mr. Knowsley Thornton had done this operation successfully at a single sitting, but he deemed this risky. He would ask whether a safety pin might not replace the rather complicated shield.

The President, after referring to Dr. Manson's many contributions to medical science, said that to practitioners in isolated positions, his operation was likely to be very useful. In hospitals, where special knowledge and skill were at hand, free opening of the abscess, as Mr. Symonds had described, might be preferable, but the method was admirably adapted for use where these were absent.

Dr. Manson, in reply, said that the advantages of the siphon drain were that the patient could be kept at rest, and also that the opening need not be at the lowest part of the abscess. Leakage at the side of the drainage-tube was prevented, for the calibre of the expanded tube was greater than that of the cannula; moreover, this prevented hæmorrhage, a point of much importance. A great deal of suction was not desirable; if a suction of more than a foot of water were present, it would, he thought, bring on hæmorrhage from the rotten liver substance. Dr. Edmunds' plan was much the same as that known at Shanghai as the method of Little; Dr. Macleod had also described it. The latter advised the use of a metal tube instead of an elastic one, on account of lipping of the orifice in the liver.

Mr. John Poland shewed a specimen of "*Fracture of the Glenoid Cavity of the Scapula.*" It was taken from a man, aged 46 years, who had fallen from a scaffold, a distance of about twelve feet. Death ensued within 24 hours from extensive fracture of the anterior and middle fossæ of the skull on the left side, with contusion of the brain, and great meningeal hæmorrhage. The temperature some hours before death reached 107·8°, and the pulse was 57. There were fractures of the glenoid cavity, body, and acromion process of the left scapula. The stellate character of the glenoid fracture, and the mode of displacement of the three fractures traversing the body of the scapula, taken with the usual line of fracture of the acromion caused by a fall on the shoulder, were sufficient, he thought, to prove that the fracture of the glenoid cavity was caused by a fall upon the outer side of the shoulder, and that the lines of fracture in the body of the bone radiated from this. The position of the head of the bone at the time of injury was moreover indicated by the peculiar site of the glenoid fracture, and this bore out the experiments of M. Assaky and Prof. Farabeuf on the dead subject, which showed that the precise form of the fracture of the glenoid cavity had a constant relation to the position of the humerus. Farabeuf stated that there was not general contact of the articular surfaces, but that the pressure exercised by the humeral head had its maximum at one spot; this he called the polar contact of the surfaces. A transverse blow on the head of the humerus

which had been carried horizontally forwards gave a stellate fracture; two large branches extended forwards, the principal one upwards, the other downwards, and a small one approaching the centre of the glenoid cavity. M. Assaky found that the track of a single or multiple fracture was always in relation by one of its ends with the maximum (physiological) point of pressure. These fractures were never found to traverse the lower part of the glenoid cavity, which was exceedingly solid, and supported by the axillary border of the scapula. There was no dislocation of the shoulder in this case, such as is commonly found with these rare fractures of the glenoid cavity.

(A diagram of the fracture was also exhibited.)

A Meeting was held on January 27th, 1892. Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. T. Glover Lyon and Mr. Charles Hirsch were admitted, and Mr. Alfred C. Fletcher, Dr. Patrick Scott, and Mr. F. Bass were elected, as Ordinary Fellows of the Society.

Dr. Jas. Galloway exhibited a case of "*Peculiar disturbance of Sensation*," diagnosed as due to Syringomyelia.[1] He pointed out that the patient, ætat. 47 years, shewed in a marked degree the alterations to which Charcot had given the name "dissociation syringomyélique." The region affected was the right side of the body, from the level of the tenth dorsal vertebra upwards, the right side of the neck, face and scalp, and the whole of the right upper extremity. Contact over this region could be readily localised, but pain could not be appreciated nor heat and cold. The mucous membrane of the mouth, tongue and fauces were similarly affected. The muscles were much wasted, and the elbow-joint was in the same condition as a tabetic joint. Muscular sense was retained. The condition had gradually increased since the age of 25. Dr. Galloway said that he had seen the case with Dr. Hughlings Jackson, to whom he was indebted for permission to exhibit it, and who concurred in the diagnosis. Dr. Galloway remarked on the

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[1] See *Lancet*, 1892, vol. i., p. 408.

chronic character and unilateral distribution of the symptoms, and said that similar phenomena had been observed in other reported cases of the disease, which had been verified by post-mortem examination.

The President thought that the diagnosis of syringomyelia was justified, stating that the condition was first recognised on the post-mortem table, and from the observed morbid anatomy the clinical picture of the disease was defined. He stated that one or two cases had been diagnosed in England, including one recently exhibited by Dr. Ferrier.

Mr. Openshaw said that Dr. Ferrier's case had recently died, and on autopsy the diagnosis had been verified. He asked how the unilateral character of the symptoms was to be accounted for on the supposition of a symmetrical dilatation of the central canal of the cord.

Dr. Turner remarked that he had met with one case on the post-mortem table; it was that of a girl who had been fatally burnt, and his attention was called to the cord by the extreme muscular atrophy exhibited by the corpse. There was found a large central cavity, largest in the cervical region, extending down the dorsal cord, and becoming double in the lumbar region. The double tube in the lumbar region shewed that the cavity commenced in the lateral columns.

Dr. Pitt said he was interested in the unilateral and facial distribution of the symptoms as well as in the arthritic trouble. He stated that he had a specimen shewing extreme destruction in a shoulder-joint, due, as the post-mortem shewed, to a glioma in the cord with distension of the central canal. He had a girl at present under his care with considerable wasting of muscles, making syringomyelia the most probable diagnosis. He was astonished at the small amount of progress the disease had made in more than 20 years. The absence of pain also struck him as a very unusual feature. In a case which came under his observation, the areæ of anæsthesia were very limited, but the autopsy revealed extensive glioma of the cord.

Dr. Glover Lyon stated that a boy was under his care, at Victoria Park Hospital, in whom he had been led to a diagnosis of progressive muscular atrophy, but it proved to be a case of syringomyelia; the atrophy was bilateral, and he had noticed that the loss of power was in proportion to the wasting of the muscle. He thought that the case now before the Society was aberrant, in that the loss of power was complete, while there still seemed to be a considerable bulk of muscle remaining.

Dr. Galloway, in reply, said that the unilateral and facial aspects of the case were somewhat anomalous, but quoted a recorded case of a very similar nature, in which the scalp also of one side was affected. Dr. Taylor had shewn him some specimens in which a glioma extended up to the Iter a tertio ad quartum ventriculum. The unilateral features he explained by reference to the lateral origin of the dilatation, as mentioned by Dr. Turner, also mentioning that the symptoms were due to the effects of the growth of a glioma, which growth might be greater on one side. As regards the duration of the disease, he believed that many cases existed for a long time without attention being drawn to them, and mentioned a case (specimens of whose cord he handed round) he obtained from Bethnal Green House, in which he believed the condition had been present for many years. In conclusion, he stated his belief that the origin of the condition was really a mass of congenitally included neuroglia, which for some unknown reason took on an unusual growth.

Dr. Fred. J. Smith shewed a case of "*Symmetrical Local Asphyxia.*" The patient was a woman, aged 45, who for eight or nine years had noticed that her fingers and toes turned white and blue on exposure to cold. He said that the case derived its chief interest from the fact that her father had suffered in precisely the same way. The patient had noticed the condition first in the middle finger of the right hand, and from thence it had rapidly become universal and symmetrical.

Mr. Symonds said that the case reminded him of a similar one that he had brought before the Society some seven or eight years ago. He had tried to get a picture of the condition, but was unable to do so. The condition had lasted all the life of the patient; gangrene began to supervene, and when his case was exhibited sclerodermia of the hands was found to be present in addition. He asked if that had been noticed in the present case.

Dr. Pitt said that many different conditions were included in the name given to the present case, and that prognosis differed in gravity according to the presence or absence of associated hæmaturia. If hæmaturia were present, he found that quinine was of great value; but if not, he thought that nothing but residence in a warm climate was of any use. He then referred to several recorded cases in which syphilis was also present, and said he had now a case under observation in which, in addition to local asphyxia, there were also present peripheral neuritis and syphilitis, but he was unable to state the precise etiological relationships of the three diseases. He then mentioned that two autopsies had recently been performed in which large mediastinal growths were associated with local asphyxia, and were thought to be concerned in the production of the condition.

The President had seen many cases showing the relation between local asphyxia and sclerodermia. He knew of a case of symmetrical gangrene not preceded by local asphyxia. As regards the relation of hæmoglobinuria to local asphyxia, he had paid great attention to the former disease, but unfortunately none of his cases had been affected with local asphyxia. Dr. Pitt's remarks on mediastinal tumours in association with local asphyxia were new to him. He would advise treatment by bathing in cold water.

Dr. Smith, in reply, said there was no evidence of syphilis in his case or of sclerodermia, and hæmaturia was absent. He promised to try the cold water treatment.

Mr. C. J. Symonds shewed a case of "*Trigeminal Neuralgia,*" affecting the infraorbital branch of the left fifth nerve.

Mr. Symonds also shewed specimens of "*Papilloma of the Larynx,*" removed from a boy.

The President remarked that the softness of the papilloma increased the difficulties of the endolaryngeal operation by vitiating the judgment of the operator. He congratulated Mr. Symonds on his result, and said that endolaryngeal operation was to be preferred to thyrotomy, owing to the great risk to the voice in the latter operation.

Mr. Openshaw shewed a case of "*Subdural Hæmorrhage—Trephining—Recovery.*" The patient was a warehouseman, aged 42, who fell and struck his head on a rail on the 12th September last; during the 13th and 14th he complained of increasing pain in the head, and on the 15th he became delirious. He was brought to the out-patient department on the 17th, and whilst there was suddenly attacked with convulsions, which continued to recur. They always began in the left hand and extended up the left arm, down the left leg, and then to the left side of the face. Each fit lasted four or five minutes, and the patient became more and more comatose in the intervals. He was admitted at once, and after consultation with Mr. Hutchinson, it was decided that the diagnosis was either fracture with blood pressure, or hæmorrhage from contrecoup. Operation was at once determined on, and Mr. Openshaw, without an anæsthetic, turned down a flap of scalp; finding no evidence of fracture, he at once trephined; the dura-mater bulged into the trephine hole, and did not pulsate; it was incised, and about 5 ounces of blood-clot and serum were removed. The circle of bone was replaced, and the wound healed by first intention with the bone *in situ*.

The President congratulated the speaker on his success, and thanked him for bringing the case forward.

Mr. Symonds remarked that the value of the case lay in the fact of the blood being beneath the dura-mater. He had had three similar cases, of which two had recovered. He was interested in the fact that the bone had grown again; he had had similar success in children, but not in adults.

Dr. Turner asked if anything was found on the left side of the head indicating injury by direct violence; if not, then he would have expected the blood to be between the bone and the dura-mater; but if the hæmorrhage were due to contrecoup, then its position was easy of explanation.

Mr. Openshaw, in reply, said that there was a scalp wound on the left side of the head, and that he had thought before operation that the serious lesion was by contrecoup.

The Annual General Meeting was held on February 10th, 1892. Dr. STEPHEN MACKENZIE, President, in the Chair.

Dr. STRODE was admitted an Ordinary Fellow of the Society.

Dr. GILBERT and Mr. STEVENS were appointed scrutineers of the ballot.

The Report of the Council for the past year was read by the Senior Honorary Secretary, Mr. POLAND, and the Financial Report was read by the President. It was proposed by Mr. STEVENS, and seconded by Dr. DAVIES, that these Reports be received, adopted, printed and circulated; this was carried unanimously.

Dr. GILBERT proposed, and Dr. APPLEFORD seconded, a hearty vote of thanks to the President for his valuable services during the past year. This was carried by acclamation, and acknowledged by the President.

Mr. STEVENS proposed, and Dr. STOWERS seconded, a vote of thanks to the Vice-Presidents, Treasurer and Librarian. Dr. TURNER and Dr. DAVIES replied.

Mr. ST. CLAIR SHADWELL proposed, and Dr. DAVIES seconded, a vote of thanks to the Council, Honorary Secretaries and Auditors. The President made some remarks on the momentous work of the Council and the arduous duties of the Secretaries. Dr. APPLEFORD for the Council, Mr. POLAND for the Secretaries, and Dr. STOWERS for the Auditors, replied.

A ballot was then taken for the appointment of Officers for the ensuing year; the scrutineers reported that the nominations of the Council had been unanimously adopted.

The Fellows present then adjourned to the Theatre of the London Institution to listen to the Annual Oration delivered by Mr. CHARTERS J. SYMONDS (see p. 17).

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